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ABSTRACT

This proceedings contains 21 papers and panel summaries from the 1997 International Conference on Outdoor Recreation and Education. Introductory items include conference highlights, history, and schedule overview. Entries are: "Outdoor Leadership 2000" (Simon Priest); "Permits To Operate: Doing What We Do with the Proper Authority--USA Context" (Stefan J. Jackson); "Case Studies in Wilderness Medicine, the Sequel" (Shana Lee Tarter, Melissa Gray); "Politics and Outdoor Recreation" (Myrna Johnson); "Defending the Legitimacy of Outdoor Recreation Programs on College and University Campuses" (Art Jones); "Wilderness Medicine: Considerations of Adventure Travel in Tropical Areas of Latin America" (Brent Cochran); "Experiential Learning Study through Outdoor Excursions" (Thomas M. Hover, Clay Chivers); "Academics & Campus Recreation: A Win-Win Collaborative" (Rick Harwell); "Miami Bound: Issues in Transition" (Russell E. Parks); "Teaching Avalanche Safety Courses: Instructional Techniques and Field Exercises" (Ron Watters); "Adding Value through Program Integration: A Kayaking Model (Rental, Retail, Repair, Clinics and Outings)" (Raymond Poff); "1997 State of the Outdoor Industry Report" (Dave Secunda); "Permits To Operate: International Context" (Craig Mackey); "Risk Management Practices of University Based Adventure Programs" (Todd M. Bauch); "Ecotourism and International Park Protection? The Potential for Educating Outdoor Recreation Participants" (Michael G. Huffman, James E. Fickle); "Training and Development: Motivating Excellence!" (David J. Webb); "Climbing Walls: From Form to Function" (Tim J. Moore); "Accreditation for Indoor Climbing Facilities" (Peter Mayfield); "Computerized Programs for Your Trips, Classes & Equipment Rental" (Georgi Baird); "Actual Risk and Perceived Risk: Implications for Teaching Judgement and Decision-Making to Leaders" (Steven P. Guthrie); and "Essay: Changing Times in Outdoor Recreation" (Ron Watters). (SV)

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International Conference on Outdoor Recreation and Education (ICORE)

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Robert Jones

AVENTURAS EN MEXICO

Universidad Autonoma de Yucatan, November 6-8, 1997

Proceedings of the 1997 International Conference on Outdoor Recreation and Education (ICORE)

Held at the Universidad Autonoma de Yucatan, November 6-8, 1997

Compiled by
Rob Jones & Brian Wilkinson

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Robert Jones

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Introduction

The International Conference on Outdoor Recreation and Education has been in existence since the first one was held in 1984 in Bozeman, Montana. The conference was created out of a need to exchange information between professional, students researchers and interested individuals involved in nonprofit outdoor education programs across the world. Each year the conference is sponsored by the Association of Outdoor Recreation and Education (AORE) and hosted by a participating institution.

The 1997 conference was hosted by the University of Nebraska, Lincoln and held at the Universidad Autonoma de Yucatan (UADY), in Merida, Mexico. The courtyard at UADY was the perfect setting for this years conference. The adjoining meeting rooms were comfortable and conducive to the interaction between conference attendees. The location, with all of the cultural diversity and amenities available was the perfect site for any conference, but was particularly well suited for our adventurous group.

This publication has been assembled as a means of sharing information presented at the conference to those who were unable to attend. For those of us who did have the opportunity to attend, it serves as a formal, written record of conference programs and events.

The field of outdoor recreation has been booming in recent years. As demand has increased and programs expand the International Conference on Outdoor Recreation and Education has also continued to grow and expand. Through the existence of AORE, which was formed specifically to insure the life and quality of the conference, the organization of more resources will continue to flourish. The words John Muir wrote over 100 years ago are still true today. Let us keep working to spread these ideas to future generations.

"No sane man in the hands of Nature can doubt the doubleness of his life. Soul and body receive separate nourishment and separate exercise, and speedily reach a stage of development wherein each is easily known apart from the other....The life of a mountaineer seems to be particularly favorable to the development of soul-life, as well as limb-life, each receiving abundance of exercise and abundance of food."

-John Muir

Acknowledgments

Muchas gracias to all those who helped make the 1997 International Conference on Outdoor Recreation and Education a success! The conference was hosted by:

Association of Outdoor Recreation and Education (Audra McBride, President; Rob Jones, Conference Assistance Chair; and support from the Board of Directors)
University of Nebraska (Jim Fullerton, Conference coordinator and Host; Becky Doliver, Conference Intern; Rod Chambers, Registration Accountant; Stan Campbell, Director of NU Campus Recreation; Kjenda Scheele, Associate Director; Jordan Messerer and Dave Best, Graduate Assistants; and the 1996-97) University of Nebraska Outdoor Adventure Staff)
Universidad Autonoma De Yucatan (Rector Carlos Pasos Novelo, Jaime Barrera, Yolanda Lara, James Callaghan)
Association Mexicana de Turismo de Aventura y Ecoturismo (Agustin Arroyo)
Vistas Travel Resources (Donna Rudolph, Conference Travel Coordinator)
Mexicana Airlines (Liz Martinez from the Los Angeles office and the Merida staff)
Merida Hotels (Hotel Los Aluxes, Hotel Casa del Balam, Hotel Colon, Hotel Colonial, Hotel Conquistador, Hotel del Gobernador)

Highlights of the Conference

The 1997 ICORE conference held November 5-7, 1997 in Merida, Yucatan, Mexico, attracted 112 participants from the U.S., Canada & Mexico. Here are some highlights:
Located in the 450 year old host city of Merida.
Pre conference tours to the Mayan ruins of Chichen Itza and Uxmal.
Held at the colonial yet modern Universidad Autonoma De Yucatan (UADY)
The beautiful UADY courtyard, vendors displaying their wares, and perfect weather!
Socials every evening (sponsored by ORCA, the Outdoor Network, AORE and UADY)
Mexico Mike Nelson showcasing the many natural and cultural splendors of Mexico
Dr. Simon Priest highlighting the skills needed for Outdoor Leadership 2000
Rector Efrain Villanueva Arcos describing the first academic training program for adventure leaders in Mexico at the Universidad de Quintana Roo
Kitty Williams Fisher displaying the beautiful slides of the Tarahumara Indians and Mexico's incredible Copper Canyon.
Active participation by outfitters and officials from Mexico in panels and presentations
Tim Moore (the first AORE president) receiving the Jim Rennie Leadership Award
Brian Wilkinson (the first AORE student representative) receiving the Bill March Student Leadership Award
Plaques being presented to former members of the AORE Board of Directors
Phil Heeg serving as auctioneer to benefit the Yucatan Cultural Foundation ($741.00)
Closing banquet (Mayan specialties buffet) and folkloric dance
Post conference tours throughout the Yucatan peninsula
Familiarization of conference attendees with Mexican resources for future visits
Those bright ICORE '97 t-shirts featuring the cartoon about Aventuras en Mexico!

Ladies and Gentlemen

It´s a great honor for the Autonomos University of Yucatan to have been selected as the site for the eleventh International Congress of Outdoors Recreational and Educational Activities. As you know, this event is being sponsored by the Association of Outdoor Recreational and Educational Activities, the University of Nebraska, the Cultural Foundation of Yucatan, the Mexican Department of Tourism, the Mexican Association of Adventure and Eco Tourism, the Vista Travel Resources Company, Mexicana Airlines, and your host, the University of Yucatan.

We offer you a warm welcome, and will do our best to help you develop your program of activities, which will not only be making use of our land -which is yours also- but the symbols, languages, culture and folklore of this land as well. Here you will enjoy many opportunities to exchange information, promote enviromental health and discuse outdoor recreational and cultural activities. This participation will foster new disciplines to strenghten the body and mind, as well as enhance the appreciation of the depth and beauty of the cultural surroundings.

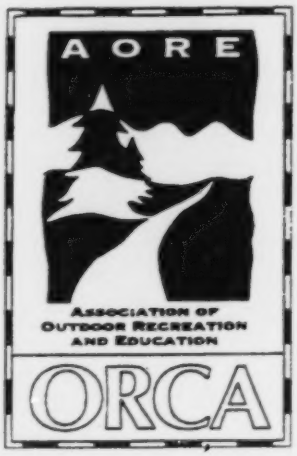
During this four days, all of you -directors, outdoor recreational leaders and student representatives- will be engrossed in your central theme, under the seductive influence of our geography. This peninsula conceals itself behind its caves, cenotes, grottos and mysterious roads, all of which invite one to reflect on self and universe. One may reflect also on its people and their efforts to share ethical and aesthetic experiences with you, which should be enjoyed, repeated and reproduced far away from this time and place.

In brief, our institution deeply appreciates your presence and offers a warm welcome to all the participants of the eleventh International Congress of Outdoor Recreational and Educational Activities.

Best regards

Carlos M. Pasos Novelo
Rector de la Universidad Autonoma de Yucatan

1996-97 AORE Board Members



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A BRIEF HISTORY OF THE CONFERENCE

1984: **Bozeman, Montana**. Sponsored and organized by university outdoor programs from Montana, Idaho and Illinois, this was the first national conference devoted solely to non-profit outdoor recreation and education providers. Buzzing with energy and excitement, this early gathering, simply called the Conference on Outdoor Recreation, reflected the passions of nascent field. It was enlightening and inspiring as much as it was delightfully contentious and unruly, as was the case during a heated and animated panel discussion on certification. Always there was the feeling of camaraderie and optimism that outdoor programs finally had come upon a vehicle to share common interests and concerns. 185 participants.

1986: **Davis, California**. Energized and committed to the early foundation set by the Bozeman conference, several universities from California organized the second national outdoor gathering. The Davis conference added new dimensions, including a sobering dramatization of the court proceedings of an outdoor liability case. It was also marked with lightheartedness. At one evening program, the field of outdoor education was parodied by an ab lib comedy troupe. The conference name evolved to: National Conference on Outdoor Recreation. 274 participants.

1988: **Fort Collins, Colorado.** Colorado State University continued the now emerging conference pattern. Remarkably, the Colorado conference, like the two previous conferences was not managed and supervised by an association as are most other conferences. It was organized in manner of a true common adventure, solely by cooperation and volunteer effort. In Fort Collins, as the other conferences, participants debated the formation of an association, but on the whole, they simply wanted to network and work together cooperatively, unencumbered by the control of an outside authority. 304 participants.

1990: **Boone, North Carolina**. The first eastern conference was held in the beautiful Broyhill Inn and Convention Center on the hilly, forested slopes of the campus at Appalachian State University. At the Appalachian, the Association of Experience Education made a strong push to assimilate the National Outdoor Recreation Conference into their organization, but conference attendees once again demonstrated their inclination towards independence and declined the overture. 303 participants.

1991: **Moscow, Idaho**. Returning to the west at the University of Idaho, the conference went through another name change. From its inception the conference had attracted a strong contingent from Canada, and it now became known as the International Conference on Outdoor Recreation. 151 participants.

1992: **Calgary, Alberta**. Living up to its new moniker, the conference headed north of the border and truly became international in scope. At the University of Calgary, conference participants could unwind after a busy day by bouldering on a climbing wall which, to everyone's amazement, was most conveniently located in the Outdoor Program Centre's office. Other participants unwound more unconventionally by taking a wild run down the Olympic Luge course. 175 participants.

1993: **Corvallis, Oregon.** After nearly 10 years of debate about the "A" word, the big step was taken at Oregon State University. The Association of Outdoor Recreation and Education was created by conference participants and became organized under the auspices of The Outdoor Recreation Coalition of America (ORCA). The conference name went through one final change becoming the International Conference on Outdoor Recreation and Education. 166 participants.

1994: **Colorado Springs, Colorado**. For the first time, the conference was hosted by a branch of the United States Armed Forces, the US Army Community and Family Support Center. Attendees came from throughout the world and enjoyed one of the most memorable social gatherings of any of the conferences: a barbecue and hoedown held at the Fort Carson Army Base in a huge tent, which, when the music started, quickly filled with the dust rising off dozens of stomping feet. 320 participants.

1995: **Ithaca, New York.** Cornell University hosted the conference and decorated the Alberding field house with live pine trees. Rising above the Alberding forest was the Linseth Climbing wall which was available throughout the conference for climbing. Presenting at the conference were some distinguished founders of the modern outdoor recreation movement including Paul Petzold, Josh Miner and Royal Robbins. 319 participants.

1996: **Salt Lake City, Utah**. The 10th ICORE was hosted by the University of Utah Outdoor Recreation Program. Conference highlights included a new system for impromptu sessions, an auction to benefit the American Whitewater Affiliation and record attendance. 348 *particpants*.

ICORE '97 in Mexico Conference Schedule Overview
THURSDAY NOV. 6, 1997

TIME	Sala A	Sala B	Sala C	Sala D
8:50-10:00 a.m. **All Conference Session** Featured Speaker: Simon Priest				
10:10-11:45 a.m. **Educational Sessions #1** (also vendor exhibits)	***Permits to Operate: USA Context*** By Stefan Jackson, NOLS (to 11:55 a.m.)	***New Case Studies in Wilderness Medicine*** By Shana Lee Tarter, WMI	***Sea Kayaking in Baja*** By Dennis Johnson, U. of California-Davis	
12:00-1:00 p.m. **Educational Sessions #2** (also vendor exhibits)	***Politics and Outdoor Recreation*** By Myrna Johnson, ORCA	***International Awareness through Adventure Travel in Mexico*** By Mike Beiser, U. of Idaho	***Defending the Legitimacy of Outdoor Recreation Programs*** By Art Jones, Utah State U.	*AORE Student Meeting*
1:00-3:00 p.m. **Lunch on your own** (also vendor exhibits)				
3:00-3:50 p.m. **Educational Sessions #3** (also vendor exhibits)	***Dealing with Americans to Prevent Litigation*** By James Moss, attorney (to 4:30 p.m.)	***Wilderness Medicine: Considerations for Tropical Areas*** By Brent Cochran, Appalachian State U. (to 4:30 p.m.)	***Creating your own Home Page in 30 minutes*** By Kurt Merrill, Penn State University	***Experiential Learning, Study through Outdoor Excursions*** By Dr. Thomas Hover and Clay Chivers, Utah Valley State College
4:00-4:50 p.m. **Educational Sessions #4** (also vendor exhibits)	***Prevent Litigation*** (continued to 4:30)	***Wilderness Medicine*** (continued to 4:30)	***Miami Bound: Examining Transition Issues*** By Tim Moore, Miami U. (Ohio)	
5:00-5:50 p.m. **Educational Sessions #5** (also vendor exhibits)	***Avalanche Safety*** By Ron Watters, Idaho State U.	***Adding Value through Program Integration: A Kayaking Model*** By Raymond Poff, Brigham Young U.	***1997 State of the Outdoor Industry Report*** By David Secunda, ORCA	
6:00-7:15 p.m. **Dinner on your own**				
7:15-8:00 p.m. **Outdoor Network Social and FCY Auction**				
8:00-10:00 p.m. **All Conference Session** Featured Speakers from Mexico				

ICORE '97 in Mexico Conference Schedule Overview
FRIDAY NOV. 7, 1997

TIME	Sala A	Sala B	Sala C	Sala D
8:50-10:00 a.m. **All Conference Session** Featured Speaker: Kitty Williams Fisher				
10:10-11:45 a.m. **Educational Sessions #6** (also vendor exhibits)	***Permits to Operate: International Context*** By Craig Mackey, Outward Bound (to 11:55 a.m.)	***Risk Management Plans of University Programs*** By Todd Bauch, James Madison U.	***Legal Issues for Outdoor Programs*** By Charles Gregg and Catherine Hansen Stamp, attorneys	***Aventuras en Mexico*** By Agustin Arroyo, President of AMTAVE, Kenneth Antonio Johnson of EcoColors, and others
12:00-1:00 p.m. **Educational Sessions #7** (also vendor exhibits)	***Ecotourism and International Park Protection*** By Michael Huffman, U. of Memphis	***Training and Development: Motivating Excellence!*** By David Webb, Brigham Young U.	***Climbing Walls from Form to Function*** By Tim Moore, Miami U. (Ohio) and Steve Blackburn	
1:00-3:00 p.m. **Lunch on your own** (also vendor exhibits)				
3:00-3:50 p.m. **Educational Sessions #8** (also vendor exhibits)	***ICORE Future Site Selection (1999 & 2000)*** By Phil Heeg, 1998 ICORE Host	***Academics and Campus Recreation: A Win-Win Cooperative*** By Rick Harwell, Clemson U.	***Indoor Climbing Facilities: What You Need to Know to Run a Successful Program*** By Peter Mayfield, Radwall, and Craig Wilson, ORCA	
4:00-6:00 p.m. **AORE General Membership Meeting and Board Elections** (also vendor exhibits)				
6:00-6:30 p.m. Last chance to visit vendor exhibits				
6:30-9:30p.m. **All Conference Session** Closing Ceremonies, Dinner, Folkloric Dance Sponsored by the University of Yucatan				

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Outdoor Leadership 2000

Dr. Simon Priest

This presentation begins by examining the need for outdoor leadership as the next millennium approaches. It continues with a summary of past research on outdoor leadership competence and a model for preparing outdoor leaders. It further investigates the dept of facilitation skill needed to address the varied adventure programming roles of today's outdoor leaders. It concludes with an overview of some of the trends and issues faced by outdoor leaders of the future.

Dr. Priest is a retired full professor, who has taught and researched the area of Adventure Recreation for the past twenty years. He is also a current adjunct professor at several American universities and has been a visiting professor in Outdoor Education at universities in Australia, New Zealand, England, Germany and Czechia. His book Effective Leadership in Adventure Programming (written with Dr. Michael Gass) has recently been published by Human Kinetics.

WORKING DEFINITION: An outdoor leader is an often underpaid and overworked practitioner who takes people into natural settings or puts them through adventurous experiences for the purposes of changing the way they feel, think, and / or behave in four relationships that connect humans and nature:

4R = Ecosystemic — Ekistic — Interpersonal — Intrapersonal

In these roles, outdoor leaders hold subtle combinations of legal, moral and educational responsibility for client learning, group supervision, personal safety & environmental protection.

PRESENTATION OUTLINE

The need for outdoor leadership in the year 2000
Summary of past research on outdoor leadership competence
A model for preparing outdoor leaders
The depth of facilitation skill needed for adventure roles
Trends and issues faced by outdoor leaders of the future

THE NEED FOR OUTDOOR LEADERSHIP

Increased public discovery means increased use of the outdoors
These increases will continue well into the next millennium
Increases are fuelled by breakthroughs in technology and access
More use leads to more accidents and environmental damage
We can't afford "no-win competitions:" Humans against Nature
Overdue for promoting harmonious attitude of co-existence
Effective outdoor leadership is needed to resolve such conflict
Outdoor leaders may enhance safety, learning and conservation

SUMMARY OF PAST RESEARCH ON COMPETENCIES

GREEN (1981)

risk management plans
small group dynamics
liability considerations
outdoor leadership methods
judgement
minimum impact practices
decision-making
assessment of group capability
assessment of individual capability
outdoor leadership objectives

SWIDERSKI (1981)

exercise good judgement
handle safety problems
prepare for accidents
prevent illness and injury
teach environmental injuries
follow a wilderness ethic
model positive attitudes
demonstrate minimum impact
recognize own limitations
recognize problem indicators

BUELL (1981)

design and use a first aid kit
knowledge of group safety
possess physical fitness
limit activities to capabilities
anticipate problems
provide standard of care
apply physical and emotional care
develop safety procedures
select and implement logistics
carry out staff pre-planning

PRIEST (1984)

ability to anticipate accidents
wilderness first aid skills
awareness of group dynamics
ability to clearly identify problems
ability to evaluate natural hazards
ability to foster teamwork
ability to provide personal growth
proficiency in land-based activities
proficiency in water-based activities
ability to prepare accident responses

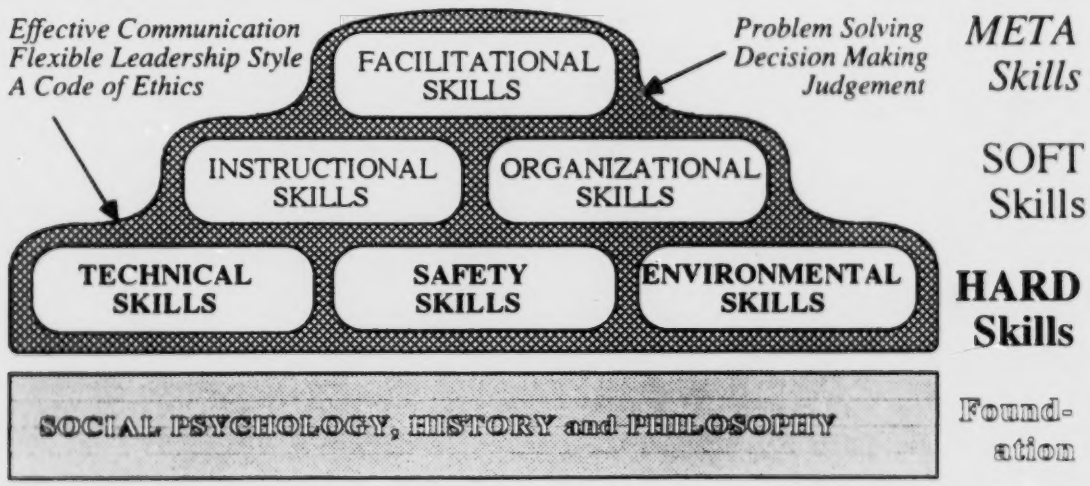
RAIOLA (1986)

leadership style
judgement (objective & subjective)
trip planning and organization
environmental issues
risk management
instructional principles
navigation
group dynamics
nutrition
field experience

PRIEST (1986)

safety skills
judgement based on experience
awareness and empathy
group management skills
problem solving skills
instructional skills
technical activity skills
flexible leadership style
motivational philosophy
environmental skills

ONE MODEL OF EFFECTIVE OUTDOOR LEADERSHIP



DEPTH OF LEADERSHIP FACILITATION SKILLS IN A.P.

Adventure = an experience where the outcome is uncertain (missing information)
In adventure programming, a learning focus is on changing human relationships:
Interpersonal = teamwork, trust, communication, cooperation, conflict resolution
Intrapersonal = self-concept, confidence, willingness to take risks, leadership?

AP is deliberate and purposeful use of activities that involve inherent risks;
where risks can be physical, emotional, social, financial, chronological, etc.
Leadership Balance = Manage the risks at acceptable levels of client perception,
but keep real risk levels low by using commonly accepted safety procedures.

By successfully dealing with the risk inherent in the situation,
by applying personal competence to face fear (reaction to risks),
by coping with the challenge (interaction of risk and competence),
and by positively resolving the uncertainty of outcome (adventure def'n);
clients can turn their perceived limitations into new abilities and
can learn a great deal about themselves and how they relate to others.

However, to ensure they learn, the learning transfers, and the change lasts,
outdoor leaders FACILITATE client reflection on their experiences.

Reflection can include an informal debriefing discussion (question circle)
or other formal methods: funnelling, frontloading, framing, solution-focus

Four types of AP (recreational, educational, developmental, and therapeutic) are defined by the primary purpose of the program and not by activities or clientele.

Recreational programs are primarily about changing the way people **FEEL**, perhaps by re-energizing or re-creating them. These programs are aimed at having fun, learning new activities, or being entertained through adventure. Examples might include enjoying a canoe club outing or learning how to climb.

Educational programs are primarily about changing the way people **THINK**, but secondarily about the way they **feel**. These programs are aimed at understanding concepts, enriching the knowledge of old concepts or generating an awareness of previously unknown needs through adventure. Examples might include teaching the importance of working together in a team or demonstrating the impact of a new way to solve problems.

Developmental programs are primarily about changing the way people **BEHAVE**, but secondarily about the way they **think** and **feel**. Through

adventure, these programs are aimed at improving functional behaviors and training people to behave in new and different ways. Examples might include finding positive means to communicate or trust one another.

Therapeutic programs are primarily about changing the way people **MAL-behave**, but secondarily about the way they **behave**, **think** and **feel**. Through adventure, these programs are aimed at reducing dysfunctional behaviors and conditioning people not to behave negatively. Examples might include dealing with alcohol abuse or overcoming low self-esteem because of past physical abuse.

The four program types are arranged in order of increasing depth of purpose, sophistication, complexity, and difficulty (swimming pool/facilitation metaphor).

Purpose of **facilitation**: to enhance the quality of the learning experience, to assist clients in finding directions and sources for functional change, and to create changes that are lasting and transferable.

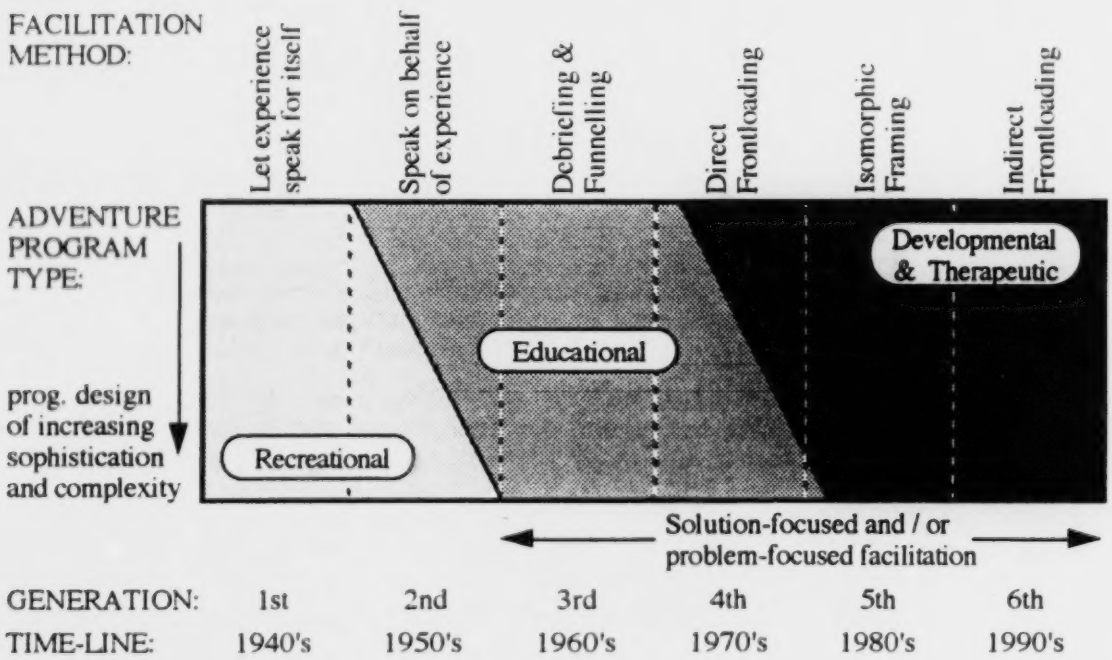
Funnelling is sequenced questions asked during or after the experience to guide reflection. In debriefing, leaders ask clients for their opinions and refrain from making statements to them. In this way, clients learn to think for themselves and begin to take ownership over confronting issues. If they "own" their issues, they are more likely to commit to changing the situation and to following through on their commitments. This discussion can be free form and shift from topic to topic as the group interests also change or it can be prescribed or "funnelled" in a direction that the leader determines is best (hence the term funnelling).

Frontloading is the use of punctuated questions before or during the experience to redirect reflection. The term literally means to load learning in front of an experience by emphasizing key points that provide an opportunity for clients to change during the experience rather than afterwards (as in a usual debriefing).

Framing is introducing the experience in a manner that enhances it relevance and meaning. Three types of framing introductions are common: fantasy, reality and isomorphic. In a fantasy framework, the facilitator weaves a tale of intriguing "fairy tales" and uses imaginary scenarios. In a reality framework, the elements of an activity are called by their real names. In an isomorphic framework, the introduction is presented as if it is actually the reality of the client's life. Not only are the names changed to fit the culture and context of the client, but the consequences and rewards associated with the experience are also changed to suit the situation and desired outcome. Isomorphs are the parallel structures added to the adventure experience by the leader so clients can see the bigger overall metaphor and are more likely to transfer their learning.

Solution-focused facilitation changes the focus of funnelling, frontloading and framing away from problems or dysfunctions and toward solutions or exceptions to those problems. Problem-focused facilitation (more common) looks to solve problems by closely investigating their causes, and determining what can be done to reduce their influence on clients. Problem-focused leaders often investigate who or what sustains the problem, when and where it occurs, why it has continued to be a problem, and how clients can try harder to overcome the problem. They generally assist clients by learning as much as possible about the problem and then work with clients to eliminate these problems.

Solution-focused facilitation does not ignore the presenting problems, but strives to bring about their resolution by helping clients identify, construct, and implement solutions to the problem. In this approach, facilitation centers around: identifying what clients want (solutions) rather than what they don't want (problems), looking for what is currently working for clients rather than what is not, emphasizing what clients are doing already that is useful (stressing client strengths) and assisting clients in doing something different (solutions) instead of investing in something that isn't working for them (problems). Solution-focused leaders often look for "exceptions" to the problem (when or where the problem doesn't occur, investigating why the problem doesn't happen) and establishes how clients can work differently at another solution, rather than harder at the same problem, in order to accomplish more lasting change.



Although outdoor leaders need many competencies to be capable in adventure programs, they also need a range of facilitation skills to be effective throughout the depth of programming types.

TRENDS & ISSUES FOR FUTURE OUTDOOR LEADERS

Around the turn of the last century, not one of the futurists predicting our prospective lives, mentioned anything remotely connected with the computer.
—John Scully, former CEO of Apple Computer.

GLOBAL TRENDS

1) shift from industrial toward information and service;
2) rapid technological advances will continue;
3) decreased earning, morality, and compassion will ensue;
4) increased crime, consumption, and debt will result;
5) more people will seek experiences outdoors;
6) more environments will get damaged; and
7) litigation will still drive decision making processes.

TRENDS IN ADVENTURE PROGRAMMING

1) adventure programs will continue to grow in popularity;
2) the size and number of organizations will increase;
3) program operations will be more regulated and complex;
4) artificial adventure environments will dominate;
5) the profession will expand and diversify;
6) programs will be brought to the learner; and
7) the profession will mature through self-examination.

ISSUES FOR ADVENTURE PROGRAMMING

1) the environment will become even more regulated;
2) technology will become a concern for all of us;
3) staff will continue to be "burned out" by work;
4) professionalism will suffer and become legislated;
5) certification will be replaced with accreditation;
6) university preparation of leaders will fluctuate; and
7) research will become a necessary "evil" of ours.

Permits to Operate:
Doing What We Do With The Proper Authority — USA Context

By

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ABSTRACT: Synopsis and discussion of the terms, patterns, and vagaries of educational and institutional permitting in the United States. How do agencies define our operations for the purposes of permitting our use of public land? We are non-profit, yet commercial operators. Few to none of our activities qualify as common adventures. We must learn to deal with regulation, law and authority. Should we seek institutional exemptions or categorization? Do we need priority use days, fees or fee waivers? How do we cope with permit applications, agency evaluations of our programs, the cost, the paperwork, the meetings, and still budget and administer courses and programs?

Prologue

The future of use for public land is more permits, not fewer, greater accountability to and regulation by land managers, not less. Outdoor educators and recreationists are being called on to deal with bureaucracy and paperwork.

It is time for outdoor recreation and education to come to grips with permits. We need to respect the tools that land managers use to protect and preserve or resources -- permitting is such a tool. How can we work with permitters? Can we, should we establish our own categories and types of regulatory authority? Have we already, knowingly or unwittingly, established such categories? How can we make institutional or semi-public permitting work?

This is a paraphrase of my presentation as the coordinator of a panel regarding permitting in the domestic context. Most of the text is ripped right out of a report prepared by Chad Henderson, my predecessor at NOLS. As was evident to those who attended ICORE's two sessions on permitting, there is much to discuss, much that could apply to any context, domestic or international, and much that remains unanswered.

Terms of Endearment

First, it is important to understand what a permit is and what it is not. A permit authorizes a specific activity of a specified amount and duration. It places conditions on the permittee and the permittee's activities, all of which must be met or the permit may be revoked.

A permit is not a management plan. For example, problems related to group size and agency recognition of the need for your activity are properly directed at the land management planning process, not the permitting process. Knowing where to target your efforts given a certain problem is the first step toward effective troubleshooting.

Regulatory Context

Congress passes laws, the executive branch interprets these laws and writes regulations, and agencies implement the regulations. For example, the National Park Service has two manuals that affect concession and commercial use, NPS-48 ("The Concessions Guideline") and NPS-53 ("Special Park Use Guidelines"). NPS-48, alone, is 900 pages long and is frequently revised without public notice or comment (since the manual is not a regulation, the agency insists that revisions are not required to be published in the Federal Register). It is important to remember that the only "layers" of this regulatory wall that have the force of law are the statutes and regulations. If an agency's policy as articulated in a manual does not sit well, check the regulations and statutes upon which it is based. Sometimes an agency can misinterpret Congressional intent and the purpose of a statute.

Thus, a statute can be challenged if it is unconstitutional. A regulation can be challenged if it fails to accurately represent the intent of the statute on which it is based. An agency policy can be challenged if it fails to accurately represent the law.

Discretionary Context & Standards of Review.

Probably the most frustrating hurdle is agency discretion. Each agency provides broad discretion to its managers to decide whether or not commercial activities will be allowed.
Coupled with that broad discretion is the courts' reluctance to overturn agency decisions. Judicial review of agency decisions is rarely successful. Probably something on the order of 99 out of every 100 agency decisions subjected to judicial review are upheld by the courts. Thus, it is critical to win at the administrative review level.

Common Terms: "Commercial Use"

Forest Service

"Commercial use or activity" -- any use or activity on National Forest System lands (a) where an entry or participation fee is charged, or (b) where the primary purpose is the sale of a good or service, and in either case, regardless of whether the use of activity is intended to produce a profit (FS 36 CFR 251.51.).

Related Forest Service definitions

"Outfitting." Providing through rental or livery any saddle or pack animal, vehicle or boat, tents or camp gear, or similar supplies or equipment, for pecuniary remuneration or other gain. The term "outfitter" includes the holder's employees, agents, and instructors.

"Guiding." Providing services or assistance (such as supervision, protection, education, training, packing, touring, subsistence, interpretation, or other assistance to individuals or groups pecuniary remuneration or other gain. The tern "guide" includes the holder's employees, agents, and instructors (FS Manual Chapter 40 sect. 41.53 (c)).

Bureau of Land Management

"Commercial use" is recreational use of the public lands for business or financial gain. When any permittee, employee or agent of a permittee, operator, or participant makes or attempts to make a profit, salary, increase his business or financial standing, or supports, in any part, other programs or activities from amounts received from or for services rendered to customers or participants in the permitted activity, as a result of having the special recreation permit, the use will be considered commercial. Subsistence activities of Alaskan Natives (as defined in the Alaska Native Claims Settlement Act) in Alaska are not considered recreational use. The collection by a permittee or his agent of any fee, charge, or other compensation which is not strictly a sharing of, or is in excess of, actual expenses incurred for the purposes of the activity or use shall make the activity or use commercial. Use by educational and therapeutic institutions is considered commercial when the above criteria are met. Profit making organizations are automatically classified as commercial, even if that part of their activity covered by the permit is not profit making. Nonprofit status of any group or organization under the Internal Revenue or Postal Laws or regulations does not in itself determine whether an event or activity arranged by such a group or organization is noncommercial. Any person, group, or organization seeking to quality as noncommercial shall have the burden of establishing to the satisfaction of the authorized officer that no financial or business gain will be derived form the proposed use (43 CFR sect 8372.0-5 (a)).

"Educational use"

Forest Service

Permits may be issued to institutional and semi-public outfitting and guiding applicants consistent with forest land and resource management plan direction for commercial use and group size. Schedules and services may fluctuate from season to season or year to year. Applicants may include a variety of membership or limited-constituency institutions, such as religious, conservation, youth, fraternal, service club, and social groups; educational institutions, such as schools, colleges and universities; and similar common interest organizations and associations. This category may also include applicants who operate commercially on a limited or intermittent basis in providing service to selected customer clientele rather than to the public at large. Outfitting and guiding activities conducted by institutional or semi-public may be authorized regardless of whether a fee or other consideration is collected from participants (FS Manual Chapter 40 41.531).

Related Forest Service definition

"Noncommercial use or activity" is any use or activity that does no involve a commercial use or activity as defined in this section (FS 36 CFR 251.51).

Bureau of Land Management

"Educational use" is an academic activity sponsored by an accredited institution of learning (43 CFR sect. 8372.0-5(e)).

Considerations & Recommendations

Obtaining New Permits

- Read the park/forest/resource are plan carefully; focus your application on use, goals, and objectives that are listed in the management plan.
- Indicate that you know the area, its history, problems, recreational use pressures; your program will fit into the current context and assist the agency in meeting its challenges; be specific.
- Utilize personal contacts, to the extent possible. Build a relationship with the agents responsible for managing the area, regional, system.
- Meet and greet potentially adverse local parties.

Maintaining Permits

- Personal approach is critical. Make rounds of your permit areas on a regular basis. Discuss your program, ask how you can assist the local managers, i.e. trail maintenance, use records, training opportunities.

- Be aware of any outfitter evaluation process. Make sure your instructors/guides know what the evaluation criteria are so that they won't be caught off guard when a ranger steps into camp.

- Educate your instructors and guides about the area, specifically the local and idiosyncratic rules.

Permit Denial

- Request reconsideration and, if possible, meet personally with the local decision-maker.

Management Plan

- Get and remain involved in the management planning process for the areas where you wish to operate.

Institutional Permitting

Look to AORE to help determine the efficacy of categorization, definition, and, ultimately, permitting as an institutional operator.

About the Author, Moderator, and Panelists:

Stefan J. Jackson is the Public Policy Manager for the National Outdoor Leadership School (NOLS). A lawyer and outdoor professional by training, he oversees the management of over 50 special use, commercial use, and concessionaire authorities. Be they permits, licenses, contracts, letters of agreement or memoranda of understanding, Stefan works with them all and with the staff at all NOLS branches (four domestic and four international) who submit the bulk of the permit paperwork. NOLS is a 501(c)(3), non-profit, educational organization, and a fully-permitted commercial outfitter, that has maintained its portfolio of permits and built relationships with permitting authorities -- regulatory agencies, private land-owners, and legislators -- for over thirty years.

The panelist include: Craig Mackey is the Public Policy Liaison for Outward Bound USA; Myrna Johnson is the Government Affairs Director for ORCA; Lenore Andersen is the Environmental Resources Director for Colorado Outward Bound.

CASE STUDIES IN WILDERNESS MEDICINE, THE SEQUEL

By

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ABSTRACT

This workshop will explore current issues in wilderness medicine through the use of case studies. Emphasis will be placed on evacuation decision making. This will be an excellent refresher for anyone with wilderness medicine training and invaluable for program administrators responsible for developing evacuation protocols. For Case Studies 1-5 please refer to the 1996 ICORE Conference Proceedings.

CASE STUDY 6

You are guiding your clients on a winter ascent in the Tetons. It is the first clear day in nearly a week and the temperature has finally topped the 0°F (0°C) mark. As you stop for a break at 9 A.M., 4 miles into your climb, one of your clients notices a figure in the distance huddled next to a large rock. You go over to investigate and recognize the outer wear of one of the climbers you met yesterday as he began his ascent of the peak.

You approach the man to see if he is OK and to offer your help. He makes no movement or sound as you walk over to him. You notice that his face and beard are crusted with ice and his face is extremely pale. His eyes are closed. You attempt to wake him up by shouting at him and, when you get no response, by vigorously rubbing your knuckles across his sternum. You think you detect a faint moan. You begin an initial assessment of the man looking for airway, breathing and circulation. You find no evidence of trauma on your head-to-toe exam. At 9:10 A.M. his vital signs are:

LOC: Unresponsive, except for the faint moan
HR: No detectable pulse
RR: 4, almost undetectable
SCTM: Pale/Cold/Dry
BP: No detectable radial pulse
P: Extremely slow to respond to light

Please list your current assessment, plan, and anticipated problems.

DEBRIEF POINTS CASE STUDY 6

It is important to understand the implications of and guidelines for the performance of Cardiopulmonary Resuscitation (CPR) in the wilderness. In an urban context CPR should not be initiated if there is: Any sign of life in the patient, a danger to the rescuers, dependent lividity (a

pooling of blood in the lowest parts of the body), rigor mortis (a stiffening of the limbs), an obvious lethal injury (e.g., decapitation), or a well defined Do Not Resuscitate (DNR) status.

In addition to the urban guidelines, there is an additional guideline that applies in a wilderness context. If the patient is rigid from the cold and has a non-compressible chest, chest compressions should not be initiated. It is virtually impossible to determine the presence or absence of cardiac electrical activity in a cold, rigid patient without a portable EKG machine. It is however very possible for a person to succumb to exposure hypothermia, have no detectable breathing or palpable pulse, and still be alive, but very fragile. In spite of the apparent absence of breathing or a pulse, many of these patients will exhibit some sign of life such as a deep pain response, pupil response, fluttering eyelids, etc.

The most appropriate treatment for a cold, rigid, pulseless patient in the wilderness is to: Begin artificial respirations, preferably with supplemental oxygen, to package them to prevent further heat loss, and to evacuate them as gently and quickly as possible.

CASE STUDY 7

You are leading a 2 week hiking and natural history program in the Grand Gulch area of Utah. It is the fifth day of the trip and you have decided to hike up to the canyon rim via a steep side canyon. You reach the plateau behind most of your students and glance back to see Jim Doe, your oldest student at the age of 49, sitting on a rock with his hands braced on his knees about 100 feet below you. You call down to him to see if he needs help and he replies that he's not feeling too well, but probably just needs to rest a bit. You leave your other students under the care of your co-instructor and carefully make your way down to Jim.

Upon your arrival you notice that Jim looks pale in spite of the 80°F day. He is breathing rapidly and shallowly. When you inquire further you discover that as he was ascending the canyon he became suddenly short of breath and began to experience a tightness in his chest. Because he also felt nauseated he assumed that the strenuous hike out of the canyon was upsetting his recent lunch. He continued to hike until the tightness in his chest worsened and he was unable to catch his breath. He reports feeling lightheaded and dizzy and says he doesn't think he will be able to continue with the hike. He denies ever feeling this way before, denies falling down and says he has no relevant medical history. At 1 P.M. his vital signs are:

LOC: Alert but anxious
HR: 96, strong and regular
RR: 28 and shallow
SCTM: Pale/Cool/Moist
BP: 162/P
P: Equal, round and reactive to light

Please list your current assessment, plan, and anticipated problems.

At 1:20 P.M. Jim reports that he now feels pain radiating down his left arm and that it feels like someone laid a huge boulder across his chest. He is becoming increasingly agitated and is worried about how he is going to get out of there. At 1:20 P.M. his vital signs are:

LOC: Alert but agitated
HR: 104, weak and regular
RR: 30 and shallow
SCTM: Pale/Cool/Moist
BP: 164/P
P: Equal, round and reactive to light

Please list your current assessment, plan, and anticipated problems.

DEBRIEF POINTS CASE STUDY 7

Cardiac emergencies are a threat to life to patients in urban settings and an even greater threat to patients in remote settings where time to definitive medical care is delayed. Management of the wilderness cardiac patient revolves around two important principles, keep the patient as calm as possible (physically and emotionally) and evacuate them as rapidly as possible. Someone exhibiting the signs and symptoms of a heart attack that do not relieve with 10-20 minutes of rest, should be evacuated with the least exertion possible. A heart attack justifies the use of a helicopter or other rapid evacuation methods. Asking the patient to walk will overwork an already overworked heart and may significantly worsen the patient's condition. While waiting for an evacuation you can consider administering one aspirin to your patient to help reduce clotting and assisting them with their own nitroglycerin medication. You may help administer up to three nitroglycerin tablets. If available, supplemental oxygen will greatly help your patient. It is important to realize that denial on the part of the patient is a significant factor that often delays the onset of care.

CASE STUDY 8

You are instructing a month long wilderness expedition in the Wind River Mountains of WY. It is the beginning of your third week and you are presently 14 miles from the nearest roadhead. This morning 19 year old Sandy Doe approaches you in tears. She says she is feeling awful. She says the last week has been a challenge for her. She says she felt great the first week of the course, but this last week she has been extremely tired and feels unable to keep up with the group. She says she has been getting nauseated when she hikes and has very little appetite. Yesterday afternoon she began to experience lower abdominal pain and cramps that persisted through this morning. She says she also noticed some vaginal spotting beginning yesterday that is continuing. She says she felt dizzy when she walked over to find you. During your conversation you notice that she appears tired and she looks quite pale. Upon physical exam she is tender in the lower quadrants of her abdomen and she appears to be guarding the area. She has no relevant medical history, states that she is sexually active, and says her last menstrual cycle was about six weeks ago. She says the trip has been very stressful for her. At 7:30 A.M. her vital signs are:

LOC: Alert, but anxious
HR: 108, weak and regular
RR: 24, unlabored
SCTM: Pale/Cool/Moist
BP: 86/P
P: Equal, round and reactive to light

Please list your current assessment, plan, and anticipated problems.

Upon reexamination at 10:30 A.M. her abdomen feels rigid and her vital signs are:

LOC: Alert and very agitated
HR: 116, weak and regular
RR: 24, unlabored
SCTM: Pale/Cool/Moist
BP: 78/P
P: Equal, round and reactive to light

Please list your current assessment, plan, and anticipated problems.

DEBRIEF POINTS CASE STUDY 8

Because it is challenging to correctly assess the severity of abdominal injuries or illnesses in the backcountry, it is recommended that you evacuate anyone with abdominal pain who also has: Signs and symptoms of shock, blood in the vomit, feces or urine, pain persisting greater than 12-24 hours, localized pain especially with guarding, tenderness or rigidity, persistent nausea and

vomiting, or diarrhea greater than 24-72 hours, fever above 102°F (38°C), or signs and symptoms of pregnancy.

In general, it is recommended that any sexually active female who presents with lower abdominal pain should be evaluated for pregnancy. If pregnancy is suspected, she should be evacuated immediately. Classic early signs and symptoms of pregnancy include: Amenorrhea, fatigue, breast tenderness, frequent urination and nausea. Potentially serious complications in the first trimester include spontaneous abortion and ruptured ectopic pregnancy.

CASE STUDY 9

It is a fine spring day, plants blooming and bees buzzing. Your group of would be naturalists are busy identifying flowers. Suddenly a scream pierces the air and you see one of your students, Kim Doe, running across the meadow engulfed in a swarm of bees, angry about the nest she has just disturbed. She runs towards the river and immerses herself to escape. By the time you reach the water most of the bees have given up and you dodge the last few angry buzzers to reach her side. She is sobbing hysterically from pain and fright. You coax her onto shore and notice at least 50 red raised welts from the stings. The next few minutes pass too quickly. Before your eyes her face begins to redden and swell. Suddenly she complains not of pain but of increasing difficulty catching her breath. Her breathing becomes ragged and gasping. You think back to her medical form and cannot recall any history of an allergy to bees. Less than five minutes after you pull her out of the water she collapses on the ground, her skin flushed and her face swollen. She appears to be barely breathing. At 2 P.M. her vital signs are:

LOC: Pain responsive
HR: 112, weak and regular
RR: 32, shallow and wheezy
SCTM: Red/Warm/Moist
BP: No radial pulse
P: Equal, round and reactive to light

Please list your current assessment, plan, and anticipated problems.

DEBRIEF POINTS CASE STUDY 9

Your student has suffered from a life threatening form of allergic reaction known as anaphylaxis. Her body has mounted an all out attack against the foreign protein introduced into her system by the bee venom. In this case, however, her body has overreacted causing an excessive release of histamines which result in a widening of her blood vessels and a narrowing of her air passages. The end result, death by shock and suffocation.

In order to control and eventually reverse this reaction it is imperative that she receive injectable epinephrine followed by oral antihistamines. In a patient with acute anaphylaxis, death is almost certain without these medications. Injectable epinephrine is available by prescription in three forms in the United States: the Ana-Kit ® (Holister-Stier), the Ana-Guard ® (Holister-Stier), and the EpiPen ® (Center Labs). Each of these forms comes ready to administer with pre-loaded adult doses. The Ana-Kit ® and Ana-Guard ® have the advantage of having two pre-loaded doses in one syringe. The disadvantage is the user must be comfortable actually administering a shot into the patient's shoulder or thigh muscles. The EpiPen ® comes with only one pre-loaded dose, however it has an auto-inject mechanism making it simple for the patient to self administer. Center Labs also makes an EpiPen Jr. ® for children under 12. Oral antihistamines are available over the counter in many forms, the most common and typically the most effective is Benadryl ® (diphenhydramine). Oral antihistamines should be administered until the patient reaches definitive medical care.

Note: Whenever administering medications, especially prescription medications, it is critical that they be administered under the direction of a physician's written or verbal orders. If you choose to

carry medications for your outdoor program, you should have a physician preceptor to help establish protocols for their administration and to provide continued training for your staff.

CASE STUDY 10

You and your assistant instructor are leading a group of 12, 14 and 15 year olds in the Absaroka Mountains, WY. You are on the 5th day of a seven day trip and are 8 miles from the closest trailhead. The students are setting up the bear hang for the evening. It is 8:30 P.M.

The muffled curse in the distance is followed the arrival of one of your students informing you that 14 year old Charlie Doe has been hit in the back of the head by the rock the students were using to get the rope over the branch. The student says that Charlie fell forward after the rock hit his unhelmeted head and they had to "shout at him a couple of times" before he moaned back at them.

When you arrive, approximately five minutes after the incident occurred, you find Charlie propped up against a tree holding his head. There is blood on his hands and matted in the hair on the back of his head. Your complete assessment reveals no significant injuries except the now clotted laceration on the back of Charlie's head and no evidence of spinal injury. Charlie is complaining of dizziness and a headache. He admits to feeling slightly nauseous and wants to go to bed. He says he cannot remember if he lost consciousness or not. At 8:50 P.M. his vital signs are:

LOC: Awake and oriented
HR: 76 regular and strong
RR: 16 and easy
SCTM: Pale, warm, and moist
BP: 100/60
P: Equal, round and reactive to light

Please list your current problems, plan, and anticipated problems.

Charlie's vital signs remained stable throughout the night. He slept, but restlessly. He is ambulatory, but complaining of dizziness, nausea and a slight headache. At 7:00 A.M. his vital signs are:

LOC: Awake and oriented
HR: 64 regular and easy
RR: 12 and easy
SCTM: Pink, warm, dry
BP: 110/68
P: Equal, round and reactive to light

Please list your current problems, plan, anticipated problems.

DEBRIEF POINTS CASE STUDY 10

Head injuries often present significant challenges to outdoor trip leaders when deciding whether a student needs to be evacuated or not. A patient with a mild closed head injury may complain of dizziness, nausea, slight vision disturbances, headache, and weakness. None of these symptoms in and of themselves are necessarily cause for concern. A patient who is unconscious briefly with signs and symptoms of a mild closed head injury may be allowed to remain in the backcountry, but needs to be monitored for a worsening head injury. The conservative course of action, however, is to evacuate any individual who looses consciousness, especially minors whose parents or guardians may be upset to find out their child was unconscious 10 days ago! Patients who remain in the field should be allowed to sleep, but awakened at 2 hour intervals to check for: change in mental status, worsening headache, vision disturbances, protracted vomiting, lethargy, excessive sleepiness, ataxia or seizures. If any of these serious signs develop the patient should be evacuated from the field rapidly.

POLITICS AND OUTDOOR RECREATION

by

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Session Description: Many issues face outdoor recreation. Increased use of existing recreational facilities, lack of funding to protect important recreation resources, maintenance backlogs, liability issues, concessions reform, diversion of Land and Water Conservation Funds to other uses; dwindling budgets and reduced personnel all directly or indirectly affect outdoor programs. The outdoor recreation industry and recreationists are beginning to make their voices heard on Capitol Hill and with the White House and federal agencies on these and other issues.

Myrna Johnson, ORCA's Director of Governmental Affairs outlines the status of pressing issues affecting outdoor recreation and will lead a discussion with participants about how they and/or their outdoor programs can become more involved in outdoor politics.

POLICY AGENDA

ORCA's 1997 Policy Agenda

Five High Priority Items Form the Core of ORCA's Legislative Agenda

1. Unfair Taxes

ORCA will oppose unfair taxes on its member's products, including efforts to levy an excise tax on a wide variety of outdoor recreation products to support state fish and wildlife programs. The International Association of Fish and Wildlife Agencies (IAFWA) hopes to introduce its excise tax legislation this year. IAFWA's tax would be levied at the manufacturer's level; boots, backpacks, tents, camping stoves, canoes, climbing equipment, cameras and sport utility vehicles are only some of the products targeted for taxation.

2. Recreation's Fair Share

Recreation is not getting its fair share when you compare it to the value of recreation in the US economy. According to the USDA Forest Service, 75% of the Gross Domestic Produce (GDP) produced by Forest Service activities in the year 2000 will be from recreation, yet current funding patterns provide only 20% of the Forest Service budget to recreation-related activities. And funding for natural resources and the environment is only 1.5% of the federal budget. Trail maintenance backlogs are almost insurmountable, and our national forests and parks are strapped for cash and personnel. Many recreation visits occur on federal public lands. ORCA will work with environmental and conservation interests on a long term goal of bringing more funds to taking care of the public's lands.

3. Fixed Anchors

Several federal land management agencies are considering policies on fixed anchors in Wilderness. The BLM has come out with proposed rules prohibiting using "permanent fixed anchors, including expansion bolts;" in BLM Wilderness areas unless specifically allowed in legislation or as a special local variance. ORCA will oppose policies that prohibit the use of fixed anchors in Wilderness, because such policies will compromise the safety of, and will generally discourage climbing.

4. Product Liability

Legislation has again been introduced to reform product liability law. Many products of ORCA members are used for adventurous activities. Liability has been a source of concern for our members. ORCA will work in coalition with other industry organizations toward a more common sense approach to product liability.

5. Land and Water Conservation Fund

Royalties from off-shore oil drilling are collected for acquisition of public land and open space via the Land and Water Conservation Fund. However, last year only about 17% of the $900 million in royalties collected was actually spent by Congress for that purpose. And that has been the pattern for a number of years. ORCA is actively working with a new coalition called Americans for Our Heritage and Recreation to develop a grassroots constituency to ask Congress to put the money into preserving our natural heritage and creating places for people to recreate, like Congress designed.

Continued on reverse

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FACT SHEET

Increase Funding for Land and Water Conservation Fund

The Land and Water Conservation Fund (LWCF) is based on a promise that resonates with reasonableness: Funds derived from the depletion of one natural resource—offshore oil and gas exploration—will be used to invest in the protection and conservation of our public land and water resources. In 1964, the United States Congress established the LWCF to provide for the acquisition of public lands to meet the needs of all Americans for outdoor recreation and open space. The LWCF Act directed Congress to allocate the royalties from offshore oil and gas development, authorized at $900 million a year, for the purchase of land, waterways, wetlands and other resource lands and to provide matching grant assistance for state and community open space and recreation projects.

For over 30 years, LWCF has been crucial in protecting our natural resources and developing our nation's recreational opportunities. It is largely responsible for conserving the magnificent natural heritage that is characteristic of our nation's rich and diverse landscape. Until 1980, allocations from the fund generally matched the annual $900 million in revenue that went into the fund. Since then, however, inadequate annual appropriations—averaging only $245 million a year and dropping to an all-time low of $138 million in FY 1996—and the elimination of state grants altogether, have resulted in numerous forfeited land conservation and recreation opportunities. Clearly, Congress and the Administration have broken a promise made to the American people when the LWCF was enacted.

And the need for the Land and Water Fund is greater than ever:

- The demand for outdoor recreation opportunities is on the rise. Growth in activities like hiking, backpacking, climbing and kayaking are significant. To meet the demand, and to address the problem of limited and fragmented leisure time, we must provide more access to recreation, close to home. A key element in bringing recreation to all Americans is providing open spaces and recreation infrastructure locally, as well as at the state and federal levels.
- Low appropriations into this fund and elimination of state funding altogether has resulted in numerous forfeited land conservation opportunities. Willing seller land owners have been unable to sell their property for public purpose, and critical properties have been lost to development.
- Pressures on current open space is intensifying.

We believe it is imperative that the commitment made to the American people when the LWCF was established be upheld. We must work to ensure that future generations can enjoy the open spaces that are so much a part of our American heritage.

Please ask the Appropriations Committee to:

- ☑ **Support $450 million for LWCF in FY 1998.** The attached state and federal projects will facilitate important land exchanges, protect and restore our nation's treasures, and create recreational opportunities for all Americans. The reserve $700 million included in the budget agreement provides the Appropriations Committee the opportunity and authority to fund $450 million for all of these projects this year.
- ☑ **Appropriate funds for the state Land and Water Conservation Fund program.** For the last two years appropriations for state funds has been eliminated. The need for recreation opportunities closer to home makes the state program more important than ever.

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FACT SHEET

"Teaming With Wildlife:" A Wolf in Sheep's Clothing

Teaming with Wildlife Is Teeming with Taxes

Don't be fooled by the sheep's clothing on the "Teaming with Wildlife" proposal. The International Association of Fish and Wildlife Agencies' (IAFWA) so-called "user fee" proposal is really teeming with taxes. The "Teaming with Wildlife" proposal has at its center a 5% excise tax on virtually all outdoor recreation products, no matter how or where the products are used. The outdoor industry supports the goal of increased funding for state fish and wildlife programs. It does not support unfair and inefficient taxes on our consumers.

This is a $1.75 billion middle class tax increase. The primary burden of this special interest excise tax will fall on middle class consumers. If enacted, IAFWA's excise tax will increase taxes by $350 million per year for a minimum of five years. The impact on the consumer would be far greater.

Unfair Taxes No! User Fees Yes! This is an unfair tax, not a user fee. Many of the taxed products, including skis, hiking boots, bicycles, cameras, film, sport utility vehicles and backpacks, may never be used outdoors, much less for activities associated with state fish and wildlife programs. According to 1995 research by Sports Market Research Group, 69% of all backpacks sold are used by school children, and 27% of all sleeping bags sold are used indoors. The outdoor industry supports true user fees, where there is a direct benefit for those who pay the fee. This tax cannot credibly be called a user fee.

Hidden Taxes = Higher Prices. Excise taxes ultimately lead to higher prices for consumers. Because this tax would be levied at the manufacturer's level, it will be built into the price of the product and passed onto distributors and retailers and consumers, along with the cost of administering the tax and the markups that occur along the line of commerce. The imposition on manufacturers of $350 million annually in excise taxes could cost the consumer $700 million or more.

We need and support comprehensive solutions. The outdoor industry agrees that all of our natural resource agencies, at the federal, state, and local levels, are in need of funding. IAFWA's proposal will benefit only state fish and wildlife programs, one small piece of the natural resource pie.

The IAFWA hopes to tax all of the products listed below:

"How to" guides such as wildlife viewing guides
Audio tapes of wildlife calls
Backpacks
Bat Houses
Binoculars
Binocular Window Mounts
Cameras
Campers
Camping Stove Fuel
Camping Stoves
Camping tarps
Camping utensils
Canoes
Canteens
CD-Rom guides to wildlife
Climbing equipment
Compasses
Cooking kits
Cross Country Skis
Downhill Skis
Dry bags
Field guides to bird and nest identification
Field guies to animal tracks, mammals, fishes, butterflies, insects and other animal groups
Film
Flippers
Flotation vests
Goggles
Hand lenses
Hiking boots
Hiking guides
Hiking staves
Kayak spray skirts
Kayaks
Camera lens filters
Camera lenses
Monoculars
Motor homes
Mountain bicycles
Nest platforms for wild birds
Paddles
Paddling guides
Photo disc
Portable water purifiers
Prepackaged camp foods
Range finders
Scuba gear, including diving masks, air tanks, regulators, and spear guns
Ski boots
Ski poles
Sleeping bags
Sleeping mats
Snorkels
Snowboards
Snowshoes
Spearguns
Sport Utility Vehicles
Spotting scopes
Squirrel Houses
Stuff sacks
Telemark skis
Tents
Travel trailers
Tripods
Wet suits
Whitewater rafts
Wild Animal Feeders
Wild Animal Seed
Wild Bird Baths
Wild Bird Feeders
Wild Bird Houses
Wild Bird Seed

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FACT SHEET

Outdoor Industry Supports Product Liability Reform

The outdoor recreation industry supports efforts to enact responsible product liability reform legislation in 1997. Many activities associated with products produced and sold by outdoor recreation companies are adventurous in nature, so have some risk associated with them. Growth in participation levels of such adventurous activities, like rock climbing, has increased companies' exposure to liability suits. The outdoor industry has responded by educating participants about the risks associated with these activities, and encouraging participants to take responsibility for their own actions. For example, The Climb Smart™ consumer awareness program, designed by ORCA's Climbing Sports Group, utilizes retail stores and climbing gyms to educate climbers on safety issues.

In addition, the industry supports modest legislative reform that:

- ☑ limits joint and several liability for non-economic damages
- ☑ provides clear guidelines for punitive damages
- ☑ establishes fair rules for product sellers
- ☑ protects defendants if injury is attributed to alcohol or drug abuse
- ☑ reduces the manufacturer's liability if the defense proves the injury was caused by misuse or alteration of the product.

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DEFENDING THE LEGITIMACY OF OUTDOOR RECREATION PROGRAMS ON COLLEGE AND UNIVERSITY CAMPUSES

By Art Jones

In 1996, as a part of the budget review process, Utah State University questioned the legitimacy of the Outdoor Recreation program in terms of its student use, cost, and especially its role as part of the University mission. A student fee increase was denied and a special task force was appointed to study all aspects of the program to determine if the center should continue. This paper will discuss the issues that were questioned by the University and suggest some basic solutions that may be helpful for similar programs.

The task force was divided into 4 sub groups to analyze real or perceived problems and to make recommendations to the President of the university regarding the future operation of the Outdoor Recreation Center (ORC).

The task force met under the direction of the Vice President for Student Services and explored a variety of problems, concerns and issues related to the center. The major concerns and some potential solutions arae listed as follows:

CONCERN #1

The reported student participation rate at the U.S.U. Outdoor Recreation Center was 4% of 18,000 students, similar centers around the nation averaged 20% participation according to the 1992 edition of the Outdoor Recreation Program Directory and Data Resource Guide. This was a serious problem to the committee because it appeared that there was a lack of student interest and support for the center.
Potential Solutions for ORC Administrators:

a. Count everyone who uses the center for information. In Reality, according to the 1996 USU ORC reports, there were 6,762 students who used the ORC or 37% participation noted.

b. Don't count the 4,000 off-campus students in the average because they don't use the center.

c. Be more accurate in counting and especially reporting center use.

CONCERN #2

There were complaints that programs and services were being planned and directed by a small group of outdoor *"elitists"* to promote their own interests such as rock climbing, river kayaking, white water rafting, etc. This appeared to be the case because outdoor enthusiasts were visible and outspoken about their personal interests and concerns. In reality, however, the program was fairly broad and included a variety of classes, workshops, trips, evening programs, etc. that were available to everyone.

Potential Solutions:

a. **Offer more introductory courses such as hiking, backpacking, canoeing, x-country skiing, etc.**

b. **Promote the program to a broad base of students.**

c. **Organize a student advisory group with students of diverse interests and backgrounds to help guide ORC decisions.**

CONCERN #3

A few vocal downtown merchants complained of unfair competition because:

1. **The center offered lower prices.**
2. **The program didn't have to pay sales tax.**
3. **The Outdoor Recreation Center actively advertised the yurt rental.**

It should also be mentioned that many businesses viewed the center as beneficial because it helped promote an interest in the outdoors and thus stimulated the sale of products and services.

Potential Solutions:

a. **Cooperate with merchants on prices, referrals and programs.**

b. **Only rent to students and faculty.**

c. **Have businessmen sit on the advisory board to speak for the intersts of the merchants.**

CONCERN #4

There was very little academic department coordination or supervision in the credit class program. Most classes were offered through the evening school with little involvement or oversight from the University's colleges or departments. In some cases approvals were gained after the classes were taught.

Potential Solutions:

a. Approve all classes through academic departments.

b. Follow class approval procedures.
   * Instructor resume
   * Course Syllabus
   * Course Outline

c. Seek departmental cooperation and explore mutually beneficial program offerings such as student credit hours, recognition, recruitment, etc.

CONCERN #5

The review committee was concerned that the ORC risk management plan was not coordinated and approved by the University's insurance risk office. While the ORC was conscientious about risk and safety, there was not a published document or approved guidelines in place.

Potential Solutions:

a. Carefully analyze all Outdoor Recreation Center risks including exposure, hazards, frequency probabilities, severity probabilities and risk management plans.

b. Prepare a risk management manual for employees, participants and administrators to review.

c. Establish a plan for employee and volunteer training.

d. Promote standards of care for all participants, especially in the areas of greatest risk.

CONCERN #6

The Outdoor Recreation budget needed to be more self-supporting. According to the Ofice of Student Services, in 1996, 49% of the budget came from student fees and University sources, while 51% came from rentals, trips, and classes. One item of concern on the part of the community was that there was no allowance in the budget for depreciation or replacement of equipment.

Potential Solutions:

a. Raise rental, trip and class fee prices.

b. Solicit grants, gifts, and awards.

c. Cooperate with academic departments for budget support.

CAMPUS REACTION

When the students learned that the proposed ORC fee increasae had been denied, there was a considerable sized group of supporters who filed in parade fashion on the President's Office and staged marches. There were several news articles and editorials in opposition to the decision. Many students lobbied the review committee and tried to get the larger community involved. In all, there was considerable dialogue pro and con over the center.

RESULTS

The task force spent over two months analyzing the ORC. In the end, the committee could not reach unanimous agreement over what should be done. Future direction of the center is somewhat dependent on another attempt at a student fee increase. In the likely event that no additional resources become available, the following program modifications were suggested to keep the center functioning:

1. eliminate all trips.
2. eliminate the yurt rental.
3. eliminate 1 FTE staff assistant position.
4. eliminate rentals to non USU affiliated individuals.
5. increase rental rates 10%.
6. coordinate with academic departments for credit class offerings.

CONCLUSION

It is assumed that outdoor recreation programs are common and popular when organized on university campuses. This presentation has pointed out that they should not be taken for granted. While important and an educational part of the university experience, these outdoor recreation programs must remain broad, inclusive, cost effective and gain administative and community support in order to be productive and successful.

Wilderness Medicine:
Considerations of Adventure Travel in Tropical Areas of Latin America

By

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Adventure travel to Latin America can provide the opportunity for tremendous recreational and educational experiences. Trips require careful planning, implementation, and follow-up to ensure safe, healthy travel adventures. This article provides an overview of basic principles of the prevention, assessment, and treatment of medical problems common to adventure travel in tropical areas. It offers some simple and practical considerations for safe and healthy travel to the tropical regions of Latin America.

I. Introduction to the Geography of Latin America

The geographical area of Latin America includes all of the mainland of the Western Hemisphere south of the United States as well as surrounding islands such as parts of the Caribbean that share the Latin America culture and language. The tropics lie in the area between the Tropic of Cancer (22.5 degrees north of the Equator) and the Tropic of Capricorn (22.5 degrees south of the Equator).

There are several vegetation habitats in the Tropical Latin America including rain forest, cloud forest, dry tropical forest, deciduous forest, coniferous forest, alpine, scrub, desert, and savanna. The vegetation habitats are directly related to local geographical factors such as seasonal variation, rainfall, snowfall, cloud cover, slope aspect, elevation, soil type, and human impact.

This article will focus on travel considerations in the mid-lower elevation (<6000 feet/1850 meters) areas of Tropical Latin America. All of the above vegetation types, except alpine vegetation, will be encountered at the mid-lower elevations.

In the above defined regions, environmental challenges to homeostatis (normal human body function/equilibrium) are temperature, moisture (rain/humidity), and wind. Environmental challenges experienced by travelers in these regions will range from extremely wet to extremely dry precipitation conditions, cool to hot temperatures, and varying wind conditions. Some areas will have seasonal variation in temperatures, precipitation, and wind.

II. Pre-trip Planning

A. Understanding the Risks of Travel

1. Disease

Disease is much more prevalent in developing countries than industrialized nations. Many diseases that are not a threat in industrialized nations exist in developing countries. Of the 50+ diseases that were examined as threats to travelers in Tropical Latin America, fewer than 10 are present among the general population in the U.S. Only a few such as Influenza, HIV, and Hepatitis B are considered serious threats to the public health.

Diseases such as Hepatitis A, while rare in the U.S., are prevalent in Latin America due to contamination of the water supply. Diseases such as Polio and Measles, prevented in the industrialized countries through routine immunization programs, are present in developing nations.

The lack of available health care professionals, facilities, medical supplies and medications; the lack of proper food storage; unsanitary handling and preparation of food; untreated water supplies; inadequate sewage treatment; lack of pollution controls; overcrowded living conditions; and malnutrition contribute to the prevalence of disease in Tropical Latin America.

2. Injury

In Tropical Latin America, most injuries to travelers occur in motor vehicle accidents. In general, the driving conditions are much safer in the industrialized nations than in developing countries. Poor road conditions, overcrowded roads, inadequate law enforcement of traffic regulations, unsafe vehicles, and fast drivers make automobile/bus travel hazardous. Buses are used more often in Latin American than in the United States, often on narrow, winding roads. The rate of motor vehicle accidents is much higher in Latin America than in the United States. (Forgey, Travelers' Medical Resource, pp. 3-1-3-3)

Another threat to personal safety comes from crime and terrorism. While many places in Latin America are extremely safe, such as Costa Rica, other areas such as Colombia and Peru, can be hazardous.

In parts of Mexico, there have been reports of bandits, who have robbed and killed travelers on the highways. Colombia is well known for its violence, primarily involving terrorism and drug trafficking. For many years Peru has been terrorized by the violent acts of the Sendero Luminoso (Shining Path), a

Maoist terrorist group that is now involved also in drug trafficking. Theft of belongings, particularly in public places such as bus stations and markets, is a significant problem facing travelers in Latin America.

The U.S. Department of State makes advisories available concerning travel to foreign countries. While the State Department undoubtedly takes a conservative position in regard to the safety of U.S. citizens traveling abroad, it is wise to take the travel warnings very seriously. Any areas subject to warnings should be thoroughly researched prior to travel. Foreigners, particularly U.S. citizens, are sometimes targeted by terrorist groups due to the opportunities for publicity.

Whether a traveler is subject to criminal or terrorist actions, a disoriented foreigner is an easy target. Travelers must always maintain a level of awareness of their surroundings to avoid trouble situations.

3. Medical Care In Developing Countries

Medical care in developing countries is often not up to the standards of care to which a traveler is accustomed. Medical personnel, supplies, technology, facilities, and medicines are often unavailable in developing areas.

A particular problem occurs in the sanitation and hygiene of health care. A major cause of concern is the multiple use of needles and syringes. Another problem is the prevalence of contaminated blood supplies. Blood screening procedures are inadequate, and in some developing countries there is a high risk of blood being contaminated with HIV. (Forgey, Travelers' Medical Resource, p. 4-32)

In extremely remote areas, the best medical care may be available from trip/expedition personnel. Extended trips to remote areas need to be staffed with personnel who are knowledgeable and skilled in wilderness and travel medicine.

B. Medical Research

An important aspect for safe and healthy international travel is the research of the health risks of travel to specific areas. There is more information available regarding travel medicine than most travelers can use. The biggest challenge is identifying the most useful sources of information. The extent of medical research necessary depends on several issues including the length of trip, number of different countries to be visited, degree of contact with local populations, the reliability of local medical care and trip/expedition care, and the incidents of disease.

1. Centers for Disease Control

The Centers for Disease Control (CDC), a U.S.governmental agency, is the foremost organizational authority concerning the risk of disease in international travel. The CDC maintains a concise, updated information center that advises travelers in regard to disease occurrence and risks, recommended vaccines, required vaccines, and general health guidelines. The CDC information center is accessed via automated operator using a touch tone telephone. Travelers can order (at no charge) faxes of the information, which are sent immediately upon request.

2. Herchmer Individual Country Database

The Herchmer Individual Country Database is a source of information which is updated frequently. It is compiled using information obtained from the CDC, World Health Organization, International Association of Medical Assistance for Travelers, U.S. State Department, Mortality and Morbidity Weekly Report (published be the U.S. Public Heath Service). (Forgey, Travelers' Medical Resource, pp. 2-57-2-58)

The database covered the topics of vaccinations, malaria risk, other special risk diseases, food/water/dairy products safety, U.S. and Canadian Embassy information, and U.S. Department of State Travel Advisories. (Forgey, Travelers' Medical Resource, pp. 2-57-2-58)

3. Books/Publications

There are numerous books and publications that cover wilderness and travel medicine. Recommended books include A Comprehensive Guide to Wilderness & Travel Medicine by Eric Weiss, MD and the Travelers' Medical Resource: A guide to health & safety worldwide by William Forgey, MD. The former is inexpensive and a good overview of the topics while the latter is a comprehensive, user-friendly guide that is highly recommended. Wilderness Medicine: Management of Wilderness and Environmental Emergencies, edited by Paul Auerbach, MD is the most comprehensive text available. However, it is of limited use to most travelers due to highly technical format. It is also very expensive. The Wilderness Medicine Newsletter is a bimonthly publication which often has articles regarding travel medicine. See the list of sources of information in the appendix for additional information.

Using the books and publications will help to explain the history, risks, pathology (causes/effects), and prophylaxis (preventive measures) of diseases. It is certainly appropriate to supplement the

recommendations from the CDC with additional information obtained in books and periodicals.

4. Organizations

There are several organizations which disseminate information as professional, educational or public service organizations. The World Health Organization (WHO) is a multinational organization that promotes health and monitors and reports on the condition of health worldwide. The WHO provides a good overview of worldwide health, however; the organization is involved in world politics which may affect the objectivity of its information. (Forgey, Travelers' Medical Resource, p. 2-14)

The International Association for Medical Assistance to Travelers exists to provide travelers access to English- or French-speaking physicians, educated in North America or Europe, who also meet the organization's quality of care standards. The organization also provides international travel recommendations. (Forgey, Travelers' Medical Resource, pp. 2-53-2-55)

The Wilderness Medical Society is a professional and educational organization made up of physicians, nurses, wilderness emergency medical technicians, wilderness first responders, outdoor instructors and guides, and others who are interested in wilderness and travel medicine. This organization publishes the Wilderness Medicine Letter and the journal Wilderness & Environmental Medicine.

Other organizations specializing in travel medicine include the American Society of Tropical Medicine and Hygiene and the International Society of Travel Medicine. See the list of sources of information in the appendix additional information.

5. Physician Consultation

A physician should be consulted prior to international travel. Travelers need to consult a physician who is knowledgeable in wilderness and travel medicine. Prior to consultation, travelers should do their medical research and be able to discuss the topics with the physician. The consultation will help to further define the need for immunizations, medications, etc. Vaccines and prescription drugs will have to be prescribed by the consulting physician.

C. Immunizations

Travelers should be current on all routine vaccinations, including tetanus. They should receive a Polio booster once as an adult. Either the Hepatitis A vaccine or Immune Globulin and the Hepatitis B

vaccine should be taken by travelers. Other vaccines that are often recommended include Typhoid, Influenza, and Yellow Fever. There are numerous other vaccines, such as Rabies and Meningococcus Meningitis, that may be appropriate for some travelers.

The traveler can choose to receive recommended vaccines. Required vaccines are those which a traveler must show proof of immunization (International Immunization Certificate) in order to enter a country. While required vaccines may be available for administration by immigration personnel, travelers should avoid getting vaccinated in foreign countries due to the reuse of needles and use of other non-sterile techniques. (Forgey, Travelers' Medical Resource, pp. 5-31-5-34, 5-46)

Immunizations provide either active or passive immunity. Active immunity is obtained from vaccines that stimulate the production of antibodies that are prepared to fight an antigen (infectious microorganism). Passive immunity is obtained from the injection of antibodies, developed in sterile human serum, directly into the body. (Forgey, Travelers' Medical Resource, p. 9-4)

Immunizations do not guarantee immunity to a disease. Compromise of the immune system can lead to infections despite the vaccination. Some vaccines are less effective than others. Therefore, prophylaxis always includes appropriate precautions in addition to immunizations.

D. Trip Insurance

The purchase of special insurance should be a consideration of all foreign travelers. Trip cancellation insurance covers the nonrefundable costs paid by travelers who cancel their plans.

Some medical insurance plans will not cover clients traveling in foreign countries necessitating the purchase of additional medical insurance. Proof of the financial resources to pay for medical care is of utmost importance in obtaining care. Unlike the U.S., medical care may not be rendered until a patient can prove that they can pay.

Evacuation insurance is a consideration, especially for travelers to remote areas who are involved in high risk activities. This may include both in-country evacuation and emergency medical flights to the home country and facility of choice.

Auto insurance may not cover drivers while they are driving in foreign countries. Some countries, such as Mexico, require the purchase of liability insurance from a domestic (Mexican) source.

E. Trip Plan/Logistical Considerations

Safe travel requires adequate planning in regard to food, water, lodging/camping, climate,

seasonal variation, altitude, travel within the country, clothing, requirements concerning immigration and customs, and an emergency/evacuation plan.

F. Medical Kits

Medical kits should be assembled that are appropriate given the parameters of the trip including the level of medical training. There is no perfect medical kit. Kits should be tailored according to the area of travel, length of trip, remoteness, and type of activity. See the appendix for a general travel medical kit contents list.

Due to the greater likelihood of illness on foreign trips, more over-the-counter (OTC) and prescription drugs are generally carried. The primary medical staff need to be knowledgeable in the use of any drugs that are part of their medical kits.

It is better to obtain the drugs in the U.S. due to greater quality control. Travelers should be aware that some drugs can cause significant hassles in customs, even if carried with a valid prescription. Drugs with abuse potential such as Morphine and Valium can create problems in customs officials.

III. Endemic Tropical Diseases

Several of the more common endemic diseases of Tropical Latin America are discussed below with a focus on the pathology, assessment, field care, and prophylaxis. With the possible exception of Influenza (without complications) and mild Travelers' Diarrhea, all of these diseases require evacuation to definitive medical care personnel and facilities.

Organisms which cause disease are viruses, bacteria, protozoa, mycoses (yeast and fungi), and helminths (worms). Medications are available to treat bacterial, protozoan, mycosis, and helminthic infections. Only the symptoms of viruses can be treated. The viral organisms themselves must be overcome by the immune system. (Hubbell, "Why You Don't Want To Be Part Of The Food Chain or Proper Care & Feeding of Parasites," pp. 1-3)

A. Cholera

Cholera is a bacterial illness that causes massive diarrhea. The disease is very contagious and is spread through infected water and food which has been contaminated by the feces of infected people. It causes many deaths worldwide due to dehydration and loss of electrolytes. The field treatment is oral electrolyte replacement solutions (ORS).

The World Heath Organization has made great inroads in the prevention of deaths through its mass distribution of an ORS (Oralyte) throughout infected areas. The WHO ORS is excellent, but hard to purchase in the U.S. Oralyte is more available in developing countries. Gatoraid diluted to one-half strength provides for electrolyte replacement. An excellent ORS can be made by mixing one liter of fruit (orange, apple, etc.,) juice that contains potassium, one tablespoon of sugar or honey, and one teaspoon of salt. A second liter of water should be mixed with one teaspoon of baking soda. The fluid solutions should be sipped alternately. (Hubbell and Tilton, p. 178)

Given the appropriate resources, intravenous therapy should be used as it is much more effective than ORS.

Cholera can be avoided by taking appropriate food and water precautions. A vaccine is available; however, it is only about 50% effective. It also causes significant side effects in many people. (Forgey, Travelers' Medical Resource, p. 6-5)

B. Dengue Fever

Dengue fever is a viral illness resulting in a hemorrhagic fever that includes chills and significant aches and pains as well as a rash that starts in the arms and legs and spreads to the trunk. Spread by mosquito bites, this illness is rarely fatal.

Treatment consists of rest, hydration, and the use of pain and fever medication. The prevention of Dengue Fever includes appropriate use of insect precautions.

C. Giardiasis

This illness is a worldwide problem and is caused by protozoa living in water contaminated by feces of infected humans and other mammals.

The illness causes persistent watery diarrhea, abdominal cramps, nausea, bloating, and weight loss. Treatment includes medications (Flagyl), rest, and hydration. The prevention of this illness includes using proper water precautions.

D. Hepatitis A

Hepatitis A is a highly contagious viral illness that primarily affects the liver. It spreads through food and water that is contaminated by fecal matter of infected people.

This illness is rarely fatal; however, the infected person will likely be sick for 4-6 weeks with

nausea, fever, lethargy, joint pain, itching, and jaundice (yellowing of the whites of the eyes and skin). The treatment involves rest and fluids.

A vaccine is available, providing active immunity, and it is highly recommended to all travelers to Latin America. A booster is required six months after the initial injection and every 10 years. Immune Globulin, providing passive immunity, is also available. IG is reliable for approximately 3 months. Proper food and water precautions should be taken.

E. Hepatitis B

Hepatitis B is a bloodborne viral illness that primarily affects the liver. It is transmitted through blood and other body fluids is often spread through non-sterile medical and dental procedures, tattooing, body piercing, acupuncture, IV drug use, and unprotected sex. The disease is highly contagious and has been discovered to live in dried blood for approximately one week. The illness is sometimes fatal. The signs and symptoms are similar to Hepatitis A. This disease is a public health concern in the U.S. and other industrialized nations and it is epidemic in some developing countries.

The treatment of Hepatitis B includes rest and fluids. Preventive measures include using appropriate Personal Protective Equipment (PPE...latex gloves, eye protection, protective clothing, etc.) and sterile techniques and equipment during first aid and medical procedures. Persons should approach body piercing and tattooing with extreme caution and take careful measures regarding sexual activity, including the use of condoms and good judgment.

There is a vaccine that consisting of three injections over a six month period which, in most people, results in immunity for life. A test can determine whether someone needs an additional booster to increase immunity.

This vaccine is retroactive. A person who may have been exposed can start the series immediately following the incident. Although relatively new, this vaccine will likely become a routine immunization. All travelers should have the vaccination.

It should be noted that new forms of the virus have been discovered: Hepatitis C (bloodborne), D (food/waterborne), and E (food/waterborne).

F. HIV

HIV (Human Immunodeficiency Virus) is undoubtedly the most publicized worldwide disease.

Relatively new, HIV is contagious, and because it mutates frequently, it is harder to understand and track. There is no cure and it is always fatal.

Some HIV positive patients live for several years without knowing they are infected. Others, who do know, lead functional lives for years before they develop AIDS (Acquired Immune Deficiency Syndrome). Because of the suppression of the immune systems, AIDS patients die of complications from infections that the normally functioning immune system would likely overcome. HIV and AIDS are treated aggressively with drugs that seem to delay the onset of the disease.

HIV is a bloodborne pathogen and is spread in the same manner as Hepatitis B. HIV is less contagious than Hepatitis B. For the most part, HIV dies within a few minutes outside of the body. The same prophylactic measure used to prevent the transmission of Hepatitis B should be used. There is no immunization against HIV.

Patients who are HIV positive, especially if they have developed AIDS, should be extremely cautious in regard to foreign travel due to their compromised immune system and the greater likelihood of exposure to infectious agents. Immunizations should be thoroughly researched before being taken by HIV positive patients. (Forgey, Travelers' Medical Resource, pp. 4-31-4-34)

G. Influenza

Influenza (Flu) is a viral disease that annually affects people worldwide. It is spread primarily through direct and indirect contact. It is also airborne, being spread through droplets from nasal secretions. Influenza is prevalent north of the Tropic of Cancer and south of the Tropic of Capricorn during the winter seasons due to the drier air, and the close proximity of people indoors. In the tropical zones, influenza is prevalent year round.

Influenza symptoms can be severe and usually range from 1-2 weeks. They include nausea, vomiting, diarrhea, respiratory tract infections, coughing, headache, and body aches and pains. The treatment of Influenza is rest and fluids, supplemented by pain and fever medications. Influenza can lead to complications, such as Pneumonia, and should be monitored closely. Extreme cases should be evacuated to definitive medical care.

Influenza strains are monitored closely as they change year to year. Vaccines, which last for one year, are available and are highly recommended for the elderly, health care professionals, and travelers to areas of epidemic Influenza.

H. Malaria

Malaria, a prevalent tropical disease, is caused by a protozoa and is spread by mosquito bites. It is endemic in almost all lowland tropical areas, especially remote and rural areas, with the exception of arid regions. According to Dr. William Forgey, "Malaria is the most important infectious disease in the world (over 100 million cases, with just under 1 million deaths yearly world-wide) and the most important health risk to Americans traveling to malaria infected areas." (Forgey, Travelers' Medical Resource, pp. 6-31-6-32)

Malaria causes fever, chills, and malaise. The disease may develop into severe headaches, seizures, and coma as a result of cerebral infection. Malaria is sometimes fatal and requires extensive definitive medical treatment.

By taking proper insect precautions and through the use of chemoprophylaxis, malaria can be prevented. In Latin America, there are two general drugs which are used: Chloroquine (Aralen) and Mefloquine (Larium). The former medication is used in Chloroquine-sensitive areas which include (as of 1992) the Caribbean, Mexico, Belize, Guatemala, Nicaragua, El Salvador, and Costa Rica, and Paraguay. The latter medication is used in Chloroquine-resistant areas which include (as of 1992) Panama, Colombia, Venezuela, Guyana, Suriname, French Guiana, Peru, Bolivia, and Brazil.

I. Meningitis (Bacterial & Viral)

Bacterial (Meningococcal) and Viral Meningitis are present in the industrialized nations; however, they are prevalent in some regions of Latin America. Both forms of the disease cause flu-like symptoms accompanied by a stiff neck, severe headache, neck, and back pain. Meningitis is an infection of the meninges of the brain as well as the spinal cord. It is often fatal.

Bacterial Meningitis is highly contagious and is spread through airborne droplets and direct and indirect contact. In its early stages, it is treatable with antibiotics. There is a vaccine available which is recommended for travelers going to infected areas.

Viral meningitis is less contagious; however, it cannot be treated with antibiotics. Meningitis is occasionally by fungi.

J. Rabies

Rabies is a viral disease that is found among wild and domesticated animals throughout

developing countries. The disease is controlled in the U.S. through animal immunization laws and programs.

Rabies is spread through the blood, saliva, and feces of infected mammals. It causes an infection of the brain. Once the signs and symptoms appear it is almost always fatal.

Rabies is preventable. Animals (wild or domestic) should never be approached, handled, or petted during foreign travel. Cleaning (preparing carcasses) of dead animals should always be done using personal protective equipment.

Any bite or scratch from an animal should be considered suspect, especially if the animal exhibited strange or unusual behavior. Any suspected exposure to rabies should be followed immediately with the vaccine which can work retroactively.

K. Tapeworms

Tapeworms are helminthic infections that are transmitted through undercooked meat and fish. The worms infect the intestinal tract and move into other tissues such the skeletal muscles and brain. Infections may go unnoticed. Symptoms may include gastrointestinal pain, diarrhea, and weight loss. Tapeworm infections are treated with medications.

The prevention of tapeworm infections includes making certain that all meats and fish are thoroughly cooked.

L. Travelers' Diarrhea

Travelers' Diarrhea is the most common ailment affecting travelers to foreign countries. The infections are usually caused by bacteria; however, they can be caused by viruses and protozoa. Often, simply the change of bacteria types found in water can cause this illness.

Travelers' Diarrhea is estimated to affect as many as 50% of travelers to developing countries. There are three risk levels that correspond to geographical regions. Low risk countries include the U.S., Northern and Western Europe, Japan, Australia, New Zealand, and parts of the Caribbean Islands. Intermediate risk areas include Southern Europe, Eastern Europe, and parts of the Caribbean Islands. High risk areas include most of Latin America, Africa, Asia, and the Middle East. All countries in tropical regions should be considered high risk. (Forgey, Travelers' Medical Resource, p. 5-13)

The risk of Travelers' Diarrhea can be reduced significantly by the use of proper food and water precautions and through the prophylactic use of Bismuth Subsalicylate (Pepto Bismol). Two Pepto

Bismol tablets taken before each meal and before bed (8 maximum/day) have been shown to significantly reduce the onset of Travelers' Diarrhea.

A study by the University of Texas-Houston Medical School showed that the incidence of this illness was reduced from 61% to 23% among America students in Guadalajara, Mexico through the prophylactic use of Pepto Bismol. This method does produce some side effects such as dark stools, ringing in the ears, and a black-stained tongue. Medications containing aspirin should not be taken when using this prophylactic measure. People taking Coumadin should not use this method. Pregnant travelers should use this method only under the supervision of a physician. (Forgey, Travelers' Medical Resource, p. 5-14)

Another method of prophylaxis is the use of Doxycycline (antibiotic) which has been shown to significantly reduce the incidence of the illness. The contraindications include later stages of pregnancy, children under 8 years, and allergies to Tetracycline. There are side effects such as photosensitivity. The overuse of antibiotics will enhance the development of resistant strains of bacteria. Other antibiotics such as Bactrim DS or Septra DS and Idodchlordroxquin (Clioquinol) can also be used. In general, however, the use of prophylactic antibiotics is not recommended. (Forgey, Travelers' Medical Resource, pp.5-14-5-15)

Travelers' Diarrhea causes excessive, typically watery diarrhea as well as cramping. Sometimes nausea, vomiting and fever occur. A diagnosis of diarrhea is defined as loose stools that are double or triple the normal number of bowel movements per day.

Dehydration and electrolyte depletion are the biggest problems of this illness. The treatment of Travelers' Diarrhea includes attempting to determine the cause and stop ingesting it. Rest and oral electrolyte replacements are indicated. Pepto Bismol may decrease the amount of diarrhea.

Some physicians recommend an antibiotic (Doxycycline) for diarrhea that lasts for more than three or four days or when there is blood in the stool (blood indicates Amoebic or Bacillary Dysentery).

Anti-motility drugs such as Immodium are usually effective in stopping the diarrhea; however, they are generally not recommended. These drugs block the body's attempt to eliminate the infection which can allow opportunistic microorganisms to move from the intestinal tract into other tissues and body systems. The lack of bowel movements can also lead to the build-up of toxins in the gastrointestinal tract. These drugs should be reserved for limited, short-term use when toilet facilities will be unavailable, such

as long bus rides.

Travelers' Diarrhea is more common in younger adults than older adults and in persons that have reduced stomach acids levels. Taking antacids increases the risk as does using marijuana because it reduces stomach acids. (Forgey, Travelers' Medical Resource, p. 5-18)

Most cases are self-limiting and will be resolved by rest, fluids, and electrolytes. Extreme cases may need definitive medical care.

M. Typhoid Fever

Typhoid fever, a bacterial disease, is transmitted through food and water contaminated by the urine and feces of infected people.

Signs and symptoms of this disease include headache, fever, chills, loss of appetite, constipation, pain the back and abdomen, and nosebleeds. Reddish splotches may occur in some patients after about a week of symptoms. Rest, fluid replacement, and antibiotic therapy is the treatment.

Typhoid fever can be prevented through the use of proper food and water precautions. There is a vaccine that is recommended for travel to infected areas that is approximately 50% effective. It is available as two injections or as an oral vaccine. The vaccine is effective for approximately three years. (Auerbach, pp. 1115, 1145)

N. Yellow Fever

Yellow fever is a viral infection that is transmitted through mosquito bites. The disease may produce fever, vomiting of black blood, jaundice, "foamy" urine, delirium, seizures, and coma. Approximately 10 % of cases are fatal.

There are no effective treatments for this disease beyond rest, fluids, and fever control (using Acetaminophen/Tylenol).

This disease can be prevented through the use of insect precautions. There is a vaccine that is approximately 95% effective that is recommended for travel to infected areas. There are some contraindications including pregnancy, infants < 9 months, and persons with compromised immune systems. (Auerbach, p. 1136 and Forgey, Travelers' Medical Resource, pp. 6-70-6-74)

Some countries with endemic Yellow Fever require proof of vaccination for travelers coming from a country with endemic and/or epidemic Yellow Fever.

IV. Trip...Principles of Safe Foreign Travel

A. Food

When traveling to Latin America, it is appropriate to use caution regarding food. Numerous diseases such as Travelers' Diarrhea, Hepatitis A, Cholera, and Typhoid Fever are spread through contaminated food. The contamination comes from organisms present in the food, from contaminated hands preparing or handling food, contaminated water used in the food or to wash food, and spoiled food due to inadequate refrigeration of food products.

Food precautions include eating thoroughly cooked, fresh food that is served hot. Hot drinks are usually safe. Fruits that are peeled with clean hands and processed foods are usually safe.

Avoid salads, fruit that cannot be peeled, cooked food that is rewarmed or cold, food that requires refrigeration, unpasteurized dairy products, raw or undercooked meat or fish, and food from street vendors. Street vendors have been known to "freshen" fruits and vegetables with contaminated roadside water. "Cook it, boil it, peel it, or forget it."

It is important to use good hygiene during group food preparation. Utensils, bowls, cups, and water bottles should not be shared. Half-eaten food should not be shared. Sick people should not handle or prepare food.

Unfortunately, even cautious eaters will sometimes get sick from the food. One never knows for certain whether food is safe. Taking proper precautions to prevent disease helps to avoid problems.

B. Water

Water is a common vector for disease transmission. Often, simply the change in bacteria causes Travelers' Diarrhea. Other, more devastating diseases such as Hepatitis A, Cholera, and Typhoid Fever are transmitted by infected water. One should always avoid tap water except in urban areas where the water is treated. Often, tourist areas are so sensitive to this problem, that the treated tap water smells of chlorine, indicating proof of treatment.

Bottled water, soft drinks, and beer as well as hot drinks are usually safe. All ice in drinks, including alcohol drinks should be avoided.

Whenever water must be gathered, it should be treated by halogenation, boiling, or use of a water filter/purifier. Halogenation involves killing the microorganisms by poisoning with tincture of iodine, povidone iodine, chlorine bleach, halazone tablets, or water treatment tablets (Potable Aqua).

Water brought to a rolling boil at any altitude will kill harmful microorganisms. It is unnecessary to boil water for a certain amount of time. Bringing water to a rolling boil is sufficient.

Water filters and/or purifiers can be used, but it is important to understand the limitations of the equipment. Not all equipment is made the same. Some filters do not contain a purifying mechanism. See the appendix for additional information.

C. Insects

Insects can be a major problem in tropical areas of Latin America in terms of comfort and health. Mosquitoes are vectors for several diseases including Malaria , Yellow Fever, Encephalitis, and Dengue Fever. Fleas are vectors of the Plague. Sandflies cause Leishmaniasis.

There are numerous biting and stinging insects that cause painful normal and local reactions as well as anaphylaxis in hypersensitive individuals.

Anaphylaxis is defined as an acute systemic allergic reaction that results in respiratory distress and cardiovascular system collapse. Anaphylactic shock is fatal if not treated with the injectable drug Epinephrine, followed by antihistamine therapy.

Bites and stings are small puncture wounds that can result in infection. All bites and stings must be cleaned well with potable water.

The first step in avoiding insect bites and stings is to avoid their habitats. Mosquitoes live in moist, wet areas, in the lowlands, and around bodies of water. Clothing is the second level of defense. All exposed areas of skin are vulnerable. Openings in clothing such as pant cuffs need to be closed. Socks and shoes should always be worn. In some cases, it may be necessary to wear specialized mosquito-proof clothing and hat/hood.

The third method of defense is to use insect repellent and insecticide. Despite the unpleasant thought of using poisons on one's skin, it is the only proven method of repellent. Organic and other less toxic substances do not work. To repel mosquitoes, DEET at 25-75% concentration is the best repellent for the skin. Permethrin is the insecticide of choice for use on clothing, not skin. (Forgey, Travelers' Medical Resource, pp. 5-21-5-25)

When sleeping indoors in insect-infested areas, it is important to make certain that windows and doors have screens and that there are no other openings that would allow insects to enter. When sleeping outdoors or under open-air shelters, or indoors where mosquitoes can get inside, one must

sleep under mosquito netting. All openings have to be closed, tucked, etc. Insects come inside the netting while a traveler is attempting to crawl in. They also come in after having landed on the person. Mosquitoes have to killed that have gotten inside the netting.

Chemoprophylaxis should be used in any travel to mosquito-prone areas in the tropics. It takes only one bite from an infected mosquito to transmit malaria. Travel in mosquito- and other insect-prone areas can be quite tolerable if the proper precautions are taken.

D. Environmental Emergencies

There are many types of environmental emergencies which include the bites and stings of insects, reptiles, mammals, and marine life, plant reactions, toxic shellfish reactions, altitude illness, diving injuries, drownings, dehydration, hypothermia (cold injuries), hyperthermia (heat injuries).

In Tropical Latin America, any of these environmental emergencies can occur. The following information will focus on heat-related problems and dehydration due to the common occurrence of these problems at the lower elevations in the tropics.

The human body attempts to maintain a stable operating system known as homeostasis. This equilibrium can be upset by the environmental or toxic challenges mentioned above. Humans evolved in the tropics and are better suited for survival in tropical regions than in temperate , alpine, or polar regions.

Important environmental factors in maintaining homeostasis include insuring adequate oxygenation of the blood, maintaining an appropriate immune system response to antigens, maintaining adequate glucose levels and adequate electrolyte and acid/base balances, and maintaining adequate fluid levels.

The temperature extremes found on Earth range from -100 to130 degrees Fahrenheit. The body maintains an average core temperature of 98.6 degrees. The body can function generally from around 97-104 degrees but can also survive at core temperatures of 90-107 degrees.

The body's thermoregulatory system attempts to maintain a normal core body temperature by balancing heat production and heat conservation against heat loss.

Heat production is controlled by the basal metabolic rate which is affected by fluids and fuel (food stores) as well as voluntary exercise or the involuntary response of shivering.

Heat conservation is controlled by the shell/core compensation (increasing or decreasing blood flow to the vital organs or skin and extremities), piloerection (hair standing up), and the abolition of

sweating.

Heat loss factors include conduction (such as sitting on cool ground or immersion in cool water), convection (wind chill), evaporation (sweating), and radiation (heat moving away from the skin, especially the head).

A normal heat response involves sweating, red skin, normal shell/core compensation (blood vessels in the extremities and near the skin dilate) and a normal output of urine. In normal heat response, the fluid volume and electrolytes stay intact and the body is able to cool itself.

Heat challenges cause two major problems. The body can become dehydrated and suffer associated electrolyte imbalances, and the core body temperature can become elevated to dangerous levels.

Heat exhaustion, heat syncope (fainting), and heat cramps are caused by dehydration and electrolyte depletion. Heat exhaustion is defined as severe dehydration and may include fatigue, headache, nausea, vomiting, decreased urine output, anxiety/confusion/agitation, slightly increased pulse and respiration rates, as well as pale, cool, and clammy skin. Despite the potentially confused state, there will be a relatively normal level of consciousness (LOC).

The treatment of heat exhaustion, heat cramps, and heat syncope includes rest in a cool place and the replacement of fluids and electrolytes. These illnesses are typically associated with heat challenges; however, they can occur in cooler environmental conditions where there is the possibility of dehydration and electrolyte depletion. Patients that recover adequately do not need to be evacuated.

Heat stroke (hyperthermia) is the elevation of the core body temperature to a dangerous level. Heat stroke is a life-threatening emergency. Signs and symptoms of heat stroke include red, hot, dry or wet skin, and a body temperature of 105 degrees or higher. The major sign, however, is a decreased level of consciousness. The LOC decreases from confusion/disorientation to seizures, coma, and death.

The treatment of heat stroke is rapid cooling by using shade, splashing cool water on the victim, or using wet bandanas, t-shirts, etc., fanning the victim, and massaging the extremities. Fluids should be given only if the patient's LOC improves enough to take fluids without choking or vomiting. Heat stroke victims must be evacuated to definitive care.

Since heat stroke is a thermoregulatory problem, it is possible to go directly from a normal heat response to heat stroke. Given the devastating consequences of heat stroke, travelers must be alert to

the heat challenges and the body's response to these challenges.

Prevention of heat injuries includes monitoring activity levels, maintaining adequate hydration, and using appropriate protective clothing and shelter. Acclimatization to heat is important. Whenever going on a trip to a hot environment, it is good to reduce activity levels and increase fluids for a few days to allow the body to adjust to the change in environment.

E. Hygiene

Hygiene is hard to maintain, particularly on backcountry trips in the tropics. Staying relatively clean can help to reduce infections of bites, stings, and other open wounds. Potable water should be used for wound cleaning, hand washing, face washing, teeth brushing, food preparation, and drinking.

Hands should be washed as often as possible and especially after bathroom visits and direct or indirect contact with others.

Shoes and socks should be worn in all backcountry situations. Feet may stay wet all day but it is imperative to keep them clean and dry at night to avoid immersion foot and fungal infections.

Cotton underwear should be worn in tropical regions and appropriate defecation and human waste disposal procedures should be used to prevent urinary tract infections and water contamination.

Food handling, preparation, and clean-up procedures should follow appropriate standards of hygiene.

Swimming should be avoided unless water is expected to be free of pollution and infectious agents.

Invasive medical procedures should be postponed, unless they are absolutely necessary, until reaching high quality health care systems.

F. Post-trip Follow-up

Post trip follow-up is essential to discover and/or treat any illnesses or injuries which may have occurred during the trip. Medications such as Chloroquine or antibiotics must be continued upon the return home as the prescription indicates.

There are three basic levels of post-trip evaluation and treatment. The first is a self-evaluation and treatment. The second level involves a professional medical evaluation and treatment by a physician. The third level involves the evaluation and treatment by physicians who specialize in tropical diseases.

G. Leadership

Leadership is a vitally important issue on all trips, especially foreign trips. It takes considerably more skills and experience to lead trips in developing countries. There are many issues such as customs, language, transportation, laws/regulations, emergency/evacuation problems, disease, etc. that complicate the trip.

It is necessary for trip leaders to know when to contract more knowledgeable, skilled, and experienced people and organizations to help plan and implement trips.

Participants and /or expedition members and their leaders are going to likely behave much differently when faced with the stresses of a foreign trip. Expedition behavior can develop which can cause serious risk management problems as well as simply detract from the enjoyment and rewards of travel.

Leaders must be extremely focused on the group, especially given these additional challenges. Since they are also more likely to get sick on a foreign trip, good assistant leaders are essential.

Outdoor adventure travel in Latin America offers a tremendous opportunity to learn, recreate, and experience other people and places. The travel adventure can be considerably disrupted by many things. Proper planning, implementation, and post-trip follow-up can greatly increase the opportunity for fun, safe, and rewarding travel.

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VI. Appendix

- **A. Latin America**
- **B. Travel Medicine Terminology**
- **C. Endemic Diseases**
- **D. Water Disinfection**
- **E. Travelers Medical Kit**
- **F. Principles of Safe Foreign Travel**
- **G. Sources of Wilderness & Travel Medicine**

Appendix A

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Appendix B

Travel Medicine Terminology

From: **William W. Forgey, MD, Franklin Hubbell, DO, &**
The New Webster's Medical Dictionary

Antibiotic - A substance that inhibits the growth of microorganisms.

Antibody - A modified protein of an animal, usually formed in response to an infectious agent, such as a virus or bacterium, that causes a reaction in the host animal that destroys the infectious agent.

Antigen - Any of various types of substance (such as bacteria, virus, foreign protein) that causes an antibody to form, thus producing an immune response.

Antitoxin - An antibody that is formed to defend the host animal against a foreign (usually protein) substance, such as snake venom or other poisonous substance, that neutralizes or otherwise prevents the toxic substance from causing harm, used to achieve passive immunity or to effect a treatment.

Antivenin - The active substance in an antiserum that protects an animal against another animal's, or insect's, venom.

Bacteria - Plural form of bacterium.

Bacterium - Any one cell vegetable microorganism, some of which cause disease in man, animals, and larger plants. Contain organells for obtaining energy from their surroundings. Can replicate themselves by the process of binary fission or splitting.

CDC - Centers for Disease Control.

Encephalitis - An infection of a layer of tissue covering the brain, frequently resulting in death or severe neurological damage, generally caused by a viral or bacterial infection.

Endemic - The usual frequency of occurrence of a disease, including possible seasonal variations, in a human population. Less precisely, a disease prevailing continually in a region.

Envenomate - To inject venom into, as a result of a poisonous bite or sting.

Epidemic - The extensive prevalence in a community or region of a disease, including possible seasonal variations, in an animal population.

Epidemiology - The study of epidemics and epidemic diseases.

Prophylactic - Preventing disease; relating to prophylaxis.

Prophylaxis - The prevention of disease.

Protozoa - Usually unicellular, parasitize hosts via the oral route (in food and water), by being injected through skin by an insect, or by worming their way through skin after direct contact.

Quarantine - The state or condition during which measures are applied by a health administration to a ship, an aircraft, a train, road vehicle, other means of transport or container, or individuals to prevent the spread of disease from the object of quarantine to reservoirs, vectors of disease, or other individuals.

Quarantinable Diseases - Cholera, plague, and yellow fever.

Recommended Vaccination - Vaccination not required by International Health Regulations but suggested for travelers visiting or living in certain countries.

Required Vaccination - Vaccination the traveler must have for entry into, or exit from, a country. The travelers must present a validated International Certificate of Vaccination which documents the vaccination(s) required.

Serology - A blood test for an antibody response, generally performed to check for syphilis exposure and presumptive infection; the branch of science dealing with serum, especially with specific immune serums.

Specific Immune Globulin - Special preparations obtained from donor pools preselected for a high antibody content against a specific disease.

Topical - Applied to the skin surface, as with an ointment.

Toxin - A noxious or poisonous substance.

Toxoid - A toxin that has been treated so as to destroy its toxic property, but which is still antigenic, i.e., capable of stimulating the production of antibodies and thus producing an active immunity.

Transmission - The transfer of disease from one individual to another; transfer of hereditary characteristics or traits.

U.S.P.H.S. - Initials of the United States Public Health Service.

Vaccine - The modified and attenuated virus (or bacterium) of any disease, incapable of producing severe infection, but affording protection, when inoculated, against the action of the unmodified virus (bacterium).

Vector - The term applied to an insect or any living carrier which transports a disease causing microorganism from the sick to the well.

Venom - A poisonous fluid secreted by snakes, spiders, scorpions, etc.

Virus - Smallest of all living creatures, consisting only of a genetic core of DNA or RNA and a protective viral coat or shell. In order for a virus to survive, thrive, and reproduce, it has to gain access into a host and then into a specific type of cell or tissue.

WHO - The initials of the World Health Organization

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Appendix C

Endemic Diseases

Endemic Diseases	Type	Transmission	Prophylaxis	Vaccine Recommendation:
Cholera	Bacterial	Food/Water	Vaccine (<50% effective ?)	Vaccine...high risk areas
Dengue Fever	Viral	Mosquitoes	Mosquito precautions	None
Diphtheria	Bacterial	Direct/Indirect Contact	Vaccine	Childhood Vaccine
Dysentery (Amoebic/Bacillary)	Protozoan, Bacterial	Food/Water	Food/Water Precautions	None
Giardiasis	Protozoan	Water	Water Precautions	None
Hepatitis A	Viral	Food/Water	Vaccine/Immune Globulin	Vaccine recommended for all travel
Hepatitis B	Viral	Blood/Body Fluids	Vaccine, Safe Sex, First Aid Personal Protective Equipment	Recommended for all travelers...will become a routine vaccination in US
Hepatitis C	Viral	Blood/Body Fluids	Safe Sex	None
Hepatitis D	Viral	Food/Water	Food/Water Precautions	None...Must have been previously infected with Hepatitis A
Hepatitis E	Viral	Food/Water	Food/Water Precautions	None
HIV	Viral	Blood/Body Fluids	Safe Sex, First Aid Personal Protective Equipment	None
Influenza	Viral	Direct/Indirect Contact	Vaccine/Hand Washing	Recommended for elderly, health care workers
Malaria	Protozoan	Mosquitoes	Chemoprophylaxis	Recommended for all tropical areas
Measles	Viral	Direct/Indirect Contact, Airborne	Vaccine	Childhood Vaccine
Meningitis (Meningoccocal)	Bacterial	Indirect/Direct Contact	Vaccine	Recommended or required for high risk areas

Mumps	Viral	Direct/Indirect Contact, Airborne	Vaccine	Childhood Vaccine
Plague	Bacterial	Fleas on rodents	Vaccine	Recommended for travel to infected areas
Pneumococcus	Bacterial	Direct/Indirect Contact	Vaccine/Hand Washing	Recommended for elderly, health care workers
Polio	Viral	Food/Water/Airborne	Vaccine	Recommended booster for travel to infected areas
Rabies	Viral	Blood/Saliva/Fecal	Vaccine/Avoid animals	Recommended for travelers at risk of significant exposure to animals
Rubella	Viral	Airborne	Vaccine	Childhood Vaccine
Shistosomiasis	Helminthic	Fresh Water Snails	Avoid swimming/bathing/ washing clothes in infected areas	None
Sexually Transmitted Diseases	Viral, Bacterial	Body Fluids	Safe Sex	None
Tapeworms	Helminthic	Undercooked Meat	Eat thoroughly cooked meat	None
Tetanus	Bacterial	Open wounds	Vaccine	Recommended for all travelers
Travelers Diarrhea	Bacterial, Viral, Protozoan, Toxins	Food/Water	Bismuth Subsalicylate(Pepto), Antibiotics	None
Trichinosis	Helminthic	Undercooked meat	Eat thoroughly cooked meat	None
Tuberculosis	Bacterial	Airborne	Vaccine	Recommended for health care workers in infected areas and travelers known to have been exposed to TB
Typhoid Fever	Bacterial	Food/Water	Vaccination	Recommended for required for high risk areas
Yellow Fever	Viral	Mosquitoes	Vaccination	Recommended or required for high risk areas

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Appendix D

WATER DISINFECTION

HEAT/BOILING

considerations: *rolling boil sufficient– safe to drink, kills all disease-causing life forms

advantages: *most reliable
*can see it working– no precision needed

disadvantages: *need to carry extra fuel and stove
*takes time and effort

HALOGENATION

considerations: *dosage & contact time
*reduce debris before adding chemicals– filter through bandana/coffee filter

iodine: *not recommended for those with thyroid disease or known allergy to iodine
*not as sensitive to pH, etc. as chlorine; less bothersome taste than chlorine

chlorine: *very sensitive to pH levels, organic matter, pollutants
generally unreliable for wilderness travel– chlorine compounds unstable

advantages: *system lightweight, easily available/prepackaged

disadvantages: *taste (any drink mixes used to improve taste should be used after treatment, as they may bind with halogen and interfere with disinfection) question of safety in long-term use several factors effect how long/how much halogen needed
*temperature/pH/organic matter sensitivity patience, not immediate– time spent waiting for effect; contact time longer in cold water must be conscientious to get threads around bottle
Cryptosporidium resistant to chemical disinfection

FILTRATION

considerations: some just bacteria, some include viruses, protozoa
KNOW WHAT YOU'RE BUYING!

advantages: convenience

disadvantages: *System may be heavy and expensive.
*It may not eliminate viruses; may need chemical treatment too.
*System may have undetected defects.

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Appendix E

PERSONAL FIRST AID KIT

2 Large cravats
2 Surgipads or Kotex
4 4" X 4" gauze pads
10 1" Bandaids
1 1" X 10 yd roll of adhesive tape
6 Safety pins
2 Rolls of 4" Kling
1 6" ACE bandage
6 Alcohol wipes or Betadine wipes
1 Tube of Povidone-iodine
Moleskin or Spenco Second Skin
Knife or scissors
Paper & pencil
1 SAM splint (optional)

All of this can be placed into a waterproof bag which fits in a stuff sack.
(Kit, not including SAM splint, weighs a little over a pound.)

PERSONAL BIVY KIT

2 Large garbage bags (shelter or emergency rain gear)
OR a 10' X 10' sheet of plastic + 100' of parachute cord
Emergency space blanket
Metal cup
Jell-O with sugar (NOT Nutrasweet)
Lighter or waterproof matches
2 Plumber's candles
Knife
Whistle (plastic in winter)
Compass
Flashlight (small enough to carry in your mouth)
Stocking cap
Spare pair of non-cotton socks (can double as mittens)

All of this fits into a small stuff sack and weighs about 20 ounces.
ALWAYS CARRY RAIN GEAR, both tops & bottoms, even on short day hikes.

PERSONAL DENTAL FIRST AID KIT

Topical anesthetic: Oil of Clove (eugenol) or Ambesol
Temporary filling material: Cavit, Zinc Oxide
Analgesics: Ibuprofin, Tylenol, Aspirin
Antibiotics: Penicillin, Keflex, Erythromycin (for penicillin-allergic patients)
Mouth mirror
Cotton balls
Gauze
Toothbrush
Dental Floss

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TRAVELER'S MEDICAL KIT & CONSIDERATIONS

Prescription Medications:

- Carry enough of your usual prescriptions meds for the trip.
- If you wear contacts, carry a set of glasses.

Means of Water Purification:

- Carry water purification tablets, liquid, or filters.

Food:

- Don't eat food from street vendors, unless hot off the grill.
- Don't eat raw or undercooked veggies or fruit unless it can be peeled.
- Don't eat undercooked meat (BEEF, CHICKEN, POULTRY, IGUANA, PORK, ET AL)
- Wash your hands (don't self-contaminate).
- Beware of restaurant food and eat only food served hot: no ice, no water, no cream sauces.
- Drink only pasteurized sealed beverages (alcohol & freezing do not destroy bugs)

Feet:

- Always wear shoes ...

Sunburn:

- Prophylaxis: "sunblocks" & sun glasses
- Zinc oxide for 100% block or Photoplex-type sunscreen

Rx: 1. Cover up & use moisturizers
2. Tylenol or any NSAID for pain

Malaria: #1 disease worldwide:

- Current appropriate prophylaxis regime (chloroquine, mefloquine, or doxycycline)
- Active disease? Consult CDC or a specialist
- Prevention: mosquito netting & insect repellents (permithrin)

Analgesics:

- Minor pain control and headaches: Aspirin, Advil, Tylenol, 1 every 4 hours as needed
- Severe pain or migraine: Tylenol 3 or Darvocet, 1 every 4 hours as needed

Skin Infections: Cellulitis

- The affected area will be red, swollen, warm, tender; there may be purulent discharge.
- Infection is severe if there are red streaks, swollen lymph nodes, and fever.
- Treat early, don't wait for signs of serious infections.

Rx:

1. Warm, moist compresses TID - QID, made with sterile water; may use betadine/iodine
2. KEFLEX (cephalexin) 500mg po TID x 7 - 10 days
   BACTROBAN OINTMENT (mupirocin) -- for impetigo; apply to affected area BID

Eye Infections: Conjunctivitis of Corneal Abrasion

- Red conjunctiva with or without purulent discharge
- Pain secondary to corneal abrasion; always treat corneal abrasion prophylactically

Rx:

1. GARAMYCIN OPHTHALMIC OINTMENT (gentamycin) - 1/2 inch QID

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Sore Throat & Coughs - Respiratory Tract Infections:

- Severity of infection is indicated by fever & productive cough.

Rx:

1. ERYTHROMYCIN 333 mg po TID X 10 days
2. or KEFLEX (cephalexin) 500mg po TID x 10 days.

Urinary Tract Infections:

- Pain/burning with urination; frequency, urgency of urination
- Severity indicated by fever/chills and back pain; may indicate a kidney infection

Rx:

1. Force clear fluids.
2. Use BACTRIM DS(trimethoprim/sulfamethoxazole) po BID X 10 days.
3. If allergic to "sulfa drugs," use KEFLEX (cephalexin) 500mg po TID x 7 days.

Vaginitis:

- Vaginal discharge, may be itchy.

Rx:

1. Good hygiene.
2. Over the counter treatment consists of vaginal suppositories: use 1 intravaginally at bedtime 3 concurrent days or may use a betadine douche (30 ml of 2% betadine in 500 ml of water).

Fungal Infections of Skin, Feet, Groin:

- Area of skin is red with an advancing border of redness, scaly skin, may be itchy.

Rx:

1. Keep area clean and dry.
2. NIZORAL CREAM (ketoconazole) or LAMISIL CREAM: apply to rash BID.

Contact Dermatitis (poison ivy, oak, sumac):

- Allergic reaction to resin on plant
- Red streaks on skin with small blisters, very itchy

Rx:

1. Wash area well with soap and water and wash any clothes that came into contact w/ the plant.
2. HYDROCORTISONE CREAM: apply to affected area BID.
3. BENADRYL (diphenhydramine): 25mg every 6 hours.
4. If severe and spreading, may require PREDNISONE 30-50mg daily for 7 days.

Diarrhea:

Rx:

1. HYDRATION & oral rehydration salts/solutions (Gatorade)
2. PEPTOBISMOL (bismuth subsalicylate) or IMMODIUM (loperamide): 1 tab every 4 hours
3. If no improvement in 24 hours then use BACTRIM DS po BID x 7 days or CIPRO 500mg po BID x 7 days or FLOXIN 400mg po BID x 7 days; may use FUROXONE in children 5mg/kg in 4 equally divided doses.

Nausea/vomiting:

Rx:

1. PHENERGAN (promethazine) 25mg 1 tab every 4 hours.
2. As nausea abates, rehydrate with dilute electrolyte solution.

General GI Upset/heartburn:

- Mylanta, Maalox, Tums as needed

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Insect Bites & Stings:

- Use insect repellents - DEET-containing or permethrin clothing aerosols

Minor Allergic Reactions:

- Rhinitis/runny nose, itchy eyes, congestion

Rx:

1. BENADRYL (diphenhydramine): 25mg 1 capsule every 4-6 hours.

Acute Anaphylactic Reactions:

- Hives, INCREASING DIFFICULTY BREATHING

Rx:

1. EPINEPHRINE (adrenalin) 1:1000 "BEE STING KIT."
   0.3cc injection in the deltoid muscle; repeat in 20 - 30 minutes if necessary
2. Antihistamine tablets: chlorapheniramine tablets from the kit as soon as they can swallow.

Headaches, generalized aches & pains and fever:

Rx:

1. TYLENOL (acetominophen): 1- 2 tabs every 4 hours as needed.
2. MOTRIN (ibuprofen) 1- 2 tabs every 6 hours with food.

Constipation:

Rx:

1. Increase fluids & fiber
2. MILK OF MAGNESIA 5ml every 6 hours
3. If no results with MOM, use DUCOLAX SUPPOSITORY X 1

CONTENTS OF THE TRAVELER'S MEDICAL KIT (Expedition Team Kit)

PRESCRIPTION MEDICATIONS & non-prescription medications:
KEFLEX (Cephalexin) 500mg tablets #30
ERYTHROMYCIN 333 mg tablets #30
BACTRIM DS (Trimethoprim/sulfamethoxazole) tablets #2.
FLOXIN 400mg or CIPRO 500mg tablets #20
BACTROBAN OINTMENT 1 15gram tube
GARAMYCIN OPHTHALMIC OINTMENT 1 tube
NIZORAL CREAM OR LAMISIL CREAM 1 15 gram tube
Hydrocortizone cream 1 tube or ULTRAVATE STEROID CREAM 1 15 gram tube
PREDNISONE 10mg tablets #40
Benadryl 25mg #50
Peptobismol tablets and/or Immodium tablets #50
PHENERGAN 25 mg tablets #20
ANAKIT #2
Ibuprofen #50
TYLENOL 3 #30
Tylenol #50
Ducolax tablets #20
Sunblock - Zinc Oxide = 100% block
Blister kit. mole skin/foam or second skin

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Appendix F

Principles of Safe Foreign Travel

- Obtain skills & knowledge in Wilderness & Travel Medicine
- Know your trip leadership capabilities...hire reputable guide services and/or travel with knowledgeable/skilled/experienced group members
- Check US State Department Travel Advisory...Heed Warnings!
- Check CDC & travel medicine publications/books
- Obtain Recommended/Required Vaccinations/Medication Prophylaxis... Be current on the standard childhood vaccinations
- Take an appropriate medical kit...know how to use it
- Have an Emergency Plan
- Use DEET, Permethrin, mosquito netting, and appropriate clothing to avoid mosquito bites & other insect bites
- Be attentive to potential criminal and terrorist activities
- Always wear shoes
- Avoid swimming in suspect water
- Check often for ticks
- Never approach or attempt to handle/pet any animals
- Suspect all water & ice...Drink bottled water/drinks & hot drinks
- "Cook it, boil it, peel it, or forget it!"...Use appropriate food & water precautions...Avoid salads, fruit that cannot be peeled, undercooked meat, raw fish, rewarmed food, or food that normally requires refrigeration. Eat freshly prepared hot food and fruits that you peel (with clean hands).
- Don't share water bottles, utensils, half-eaten food, etc.
- Don't allow sick people to prepare food
- Practice Safe Sex
- Use Personal Protective Equipment when administering first aid & health care
- Wash your hands often...with potable water!
- Follow-up with post-trip medical examinations for potential trip-related chronic or unexplained medical problems
- Monitor yourself and your group for acclimatization problems, medical problems, psychological problems, etc and help make sure everyone has the opportunity to have fun!

Appendix G

Sources: Wilderness/Travel Medicine & Travel Safety

Adventure Travel Business Trade Association, 6551 South Revere Parkway, Suite 160, Englewood, CO 80111 (303) 662-8282

American Society of Tropical Medicine and Hygiene, 64343 First St. N.W., Washington, DC 20015 (202) 364-5969

Auerbach, Paul S. Wilderness Medicine: Management of Wilderness and Environmental Emergencies. St. Louis, MO: Mosby, 1995

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Centers for Disease Control. Morbidity and Mortality Weekly Report, Summary of Health Information for International Travel, Weekly Summary - Countries with Areas Infected with Quarantinable Diseases. Public Information: Traveler's Health Hotline (404) 332-4559. Atlanta, GA 30333

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Herchmer Country Database Program, Herchmer Medical Consultants, 109 East 89th Ave., Merrillville, IN 46410 (800) 336-8334, (219) 769-6035 (fax)

Hubbell, D.O., Frank and Buck Tilton, MS. Medicine for the Backcountry. Merrillville, IN: ICS Books, Inc., 1994

International Association for Medical Assistance to Travelers, 417 Center St., Lewiston, NY 14092 (716) 754-4883

International Society of Travel Medicine, P.O. Box 15060, Atlanta, GA 30333-0060

Isaac, P.A.-C., Jeff and Peter Goth, MD. The Outward Bound Wilderness First-Aid Handbook. New York: Lyons & Burford, 1991

Schimelpfenig, Tod and Linda Lindsey. NOLS Wilderness First Aid. Lander, WY: NOLS Publications, 1991

Weiss, MD, Eric A. A Comprehensive Guide to Wilderness & Travel Medicine. Berkeley, CA: Adventure Medical Kits, 1992

Wilderness Medical Society, P.O. Box 2463, Indianapolis, IN 46204 (317) 631-1745

Wilderness Medicine Newsletter. Conway, NH: Wilderness Medicine Newsletter, Inc.

World Health Organization. Vaccination Certificate Requirements and Health Advice for International Travel 1990. WHO Publication Center USA, 49 Sheridan Ave., Albany, NY 12210

US Department of State, Overseas Citizens Bureau, Bureau of Consular Affairs, Washington, DC 20420 (202) 634-3600, Citizen's Emergency Center: (202) 647-5225

EXPERIENTIAL LEARNING
STUDY THROUGH OUTDOOR EXCURSIONS

Thomas M. Hover
Clay Chivers

Introduction

This presentation focused on examining the usefulness in capturing certain academic courses through an outdoor excursion. Such outdoor excursions are sponsored by an academic faculty member and the Outdoor Recreation department. There is nothing new about field trips and hands-on experience, they have long been used as aids to learning. However, outdoor excursions designed to provide data to evaluate the future directions for outdoor programs in conjunction with academic departments in a college and university is relatively new.

This presentation reflects not only the capture, personalization, and retention of course curriculum but gives voice to any number of participants or informants related to their experience. They, too, tell of their experience in the outdoors and their attempt to deal with the course facts learned while on an outdoor excursion. Such excursions naturally include the cultural interactions and physical experiences encountered while forming this holistic picture.

By definition naturalistic inquiry involves a study conducted in the natural setting where the thing(s) naturally occurs. Naturalistic methods include observations, interviews, inspections, photographs, journal recording, personal reflection, field notes, and analyzing expanded field notes which result in a final report.

Naturalistic inquiry is performed by individuals who have an interest in the thing(s) to be studied. The key instrument for collecting such information is the student. An inductive process is implemented by the instructor to answer emergent questions about the thing(s) being studied providing focus and understanding. A complete picture is created when cultural interactions are

studied within this same environment. The study is finally narrowed to a specific domain to provide a rich and deep context for better understanding of the phenomenon and the resulting knowledge gained.

This type of collaborate or joint approach had its inception years ago during the total eclipse of the sun, Spring of 1989 involving Utah Valley State College's faculty and the Outdoor Recreation department. Over the past nine years, outdoor excursions have continued to grow between students, college departments, and outdoor recreation. Subsequently, such excursions have expanded by offering the expertise from the outdoor recreation staff to various faculty in a number of disciplines. The approach has enhanced the academic course content and the students' ultimate learning experience. In the past, such excursions have been optional for student participants and are financed by the individual student. The instructor has generally donated the instructional time. Thus, this presentation examined the approach to develop experiential learning in a **collaborative model** between academic departments and outdoor recreation.

Collaborative Model

The collaborative model is developed through relationships (or linkage) involving outdoor recreation experts and individual faculty who have a desire to teach in the natural environment. Our success has been linked to professors in the physical, natural sciences, and the arts (astronomy, biology, zoology, anthropology, geology, archeology, photography, etc.)

While the professor concentrates on teaching, the outdoor expert handles group dynamics and logistics, including, but certainly not limited to: transportation, proper permits, equipment, liability/safety issues, logistics, back country skills (i.e., medical, backpacking, camping, etc.)

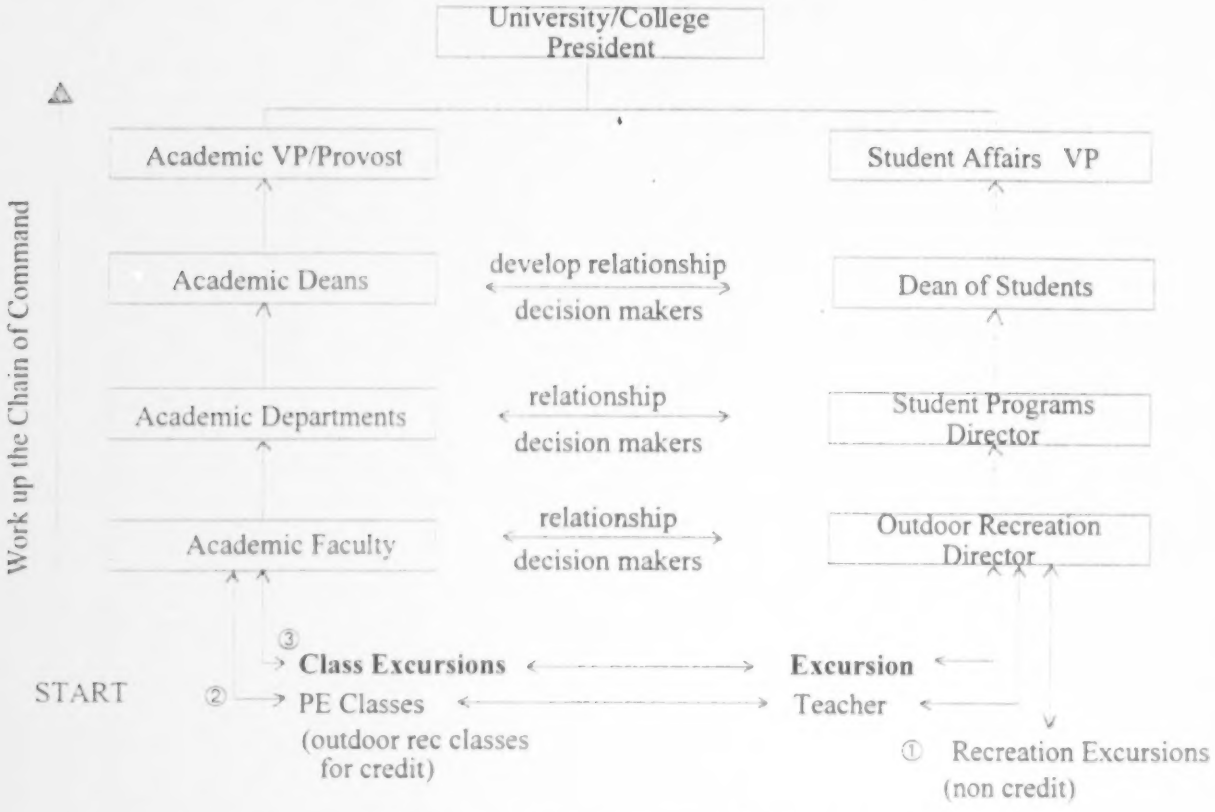
A major part of the success of collaboration has been the relationship developed between the academic department instructor, chairperson, and deans of various schools. Additionally,

support for this collaborative approach also came from the relationship between the student life director, Dean of Students, and Vice President for Student Affairs.

Because political reality influences what gets approved or disapproved, it became essential to pay attention to a hierarchical linkage. You will find that inviting decision makers on one or two excursions can go a long way in building credibility for a collaborative approach.

A simple approach in making these important political linkages is illustrated in the scheme outlined at the end of this paper. Remember, you start building relationships from the bottom to the top. You can build credibility for your academic excursions as each decision maker participates in at least one excursion.

At this point, I will outline the model, and leave you to start implementing it as it relates to your own campus organization.



1. Student Excursions, we offer excursions open to any student funded by students.
2. PE Classes (our outdoor office teaches PE classes for credit)
*3. Collaborative Model - between academic departments and Outdoor Recreation

*Collaborative Model

"Academics & Campus Recreation: A Win-Win Collaborative"

By

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ABSTRACT

This paper discusses the successful collaboration between an academic division, an academic project and the university's outdoor program. The collaborative involves the purchasing and utilization of equipment and further, the use of instructors. Each entity will be explained followed by a brief discussion of the collaborative effort.

INTRODUCTION

I would first like to explain the three units participating in the collaborative. Housed in the Parks, Recreation & Tourism Management (PRTM) Department within the College of Health, Education & Human Development (HEHD), the Leisure Skills program began in 1970 to offer courses to develop students' life-long leisure interests and skills. Clemson University does not have a Physical Education Department, thus Leisure Skills offers activity classes such as backpacking, golf, racquetball, rock climbing, snow skiing, sailing, kayaking, etc..., . These one semester hour, for credit classes enroll about 1,300 students each semester in thirty different sections with students paying a $25.00 lab fee per course each semester. Leisure Skills Instructors might include PRTM faculty, graduate assistants, university staff, and part-time faculty. Instructors are paid approximately $1,000 per course. Thus, operated as an academic unit, Leisure Skills offers introductory for-credit courses in a wide variety of topics.

The second division participating in the collaborative is the Clemson Outdoor Recreation & Education Program (CORE). Housed in the Department of Campus Recreation, a department overseen by the Vice President for Student Affairs, CORE is relatively new to Clemson. Established in January of 1996, CORE's mission is to offer educational and recreational outdoor clinics and trips for students, faculty and staff at a low cost. Since last January, program offerings have included rock climbing, sea kayaking, backpacking, with trips to the Everglades, Pritchard's Island, Great Smokies Mountain National Park, and

an upcoming snow skiing trip to Steamboat Springs, Colorado. Approximately 200 students, faculty and staff have participated each semester. In regards to costs, clinics and trips range from $15.00 for a day trip to $605.00 for the Steamboat skiing trip. Fees collected cover equipment, transportation, and instruction. Generally leaders are faculty, staff or student volunteers with a small stipend available on some outings for leaders.

The last entity participating in the collaborative is the South Carolina Rural Recreation Project (SCRRP). Established in 1991 to serve the needs of small rural communities in South Carolina, the SCRRP provides a basic community summer recreation program for three years. The University selects and trains the directors and provides each director with a stipend ($3,000.00). The communities provide the director with free furnished housing, office space and a small ($1,000.00) operating budget. Programs might include senior citizens, at-risk youth, families and the entire community. Canoeing, rock climbing, camping, tennis, swimming, arts & crafts are just a sampling of the many different programs offered in each community.

Several years ago, the three entities mentioned above began working together in purchasing outdoor recreation equipment, training instructors, and jointly offering programs and clinics. As you might imagine, it is much more economical to jointly purchase and utilize outdoor equipment than to have each entity own their own equipment. CORE, Leisure Skills and the SCRRP pooled resources to upgrade existing equipment and to add new items to the inventory. The equipment consists of items such as white-water kayaks, sea kayaks, canoes, rock climbing equipment, canoe trailers, backpacking equipment, and other items. All equipment is controlled and maintained by CORE, with Leisure Skills having priority for scheduling. Damage is the responsibility of each entity and is reimbursed by the appropriate division.

In regards to instructors, the collaborative has sponsored training sessions in boater's rescue, CPR, Wilderness First Responder, etc... . Through joint training sessions, costs are kept to a minimum and the

quality and quantity of training opportunities can be increased. Further, utilizing some of the same instructors, participants become familiar and comfortable with the outdoor leaders.

Thus, the collaborative is very functional and is a win-win for each entity involved. The savings in equipment purchasing alone is well worth the effort.

MIAMI BOUND: ISSUES IN TRANSITION

By

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ABSTRACT:

The Outdoor Pursuit Center at Miami University, Ohio has provided an outdoor orientation experience for incoming first year students since 1995. The purpose of this Miami Bound outdoor orientation program is to provide an atmosphere and learning environment that is effective in easing the transition into higher education settings. This is accomplished by validating, supporting, and mutually constructing the adventure orientation programs with the students. The Miami Bound is a collaborative effort of the Outdoor Pursuit Center (OPC) and the Office of First Year Programs and Orientation, and involves students, faculty, and staff on all expeditions.

Remember the first week of college? The overwhelming feeling of being so small and insignificant among a pool of very intelligent and talented individuals, away from home, outside of the comfort zone that you had developed over the high school years? This is a common experience for many first year students on university campuses across the nation. Searching for alternative orientation programs that effectively address transitional issues has lead many programs to adventure orientation programs that require individuals to interact for extended periods in that great equalizer, the natural environment. These programs have the opportunity to reach students of all nationalities, racial and cultural backgrounds, and income levels. Our mission is simple; to provide the adventure experience that allows students the opportunities to face First Year transition issues, and to provide appropriate facilitation linking these issues back to university life while in the field.

The outdoor "classroom" provides many unique opportunities for individuals to interact; problem solve, socialize, role play, process daily activities, and focus on the transition into college life with peers and mentors. Miami Bound, the outdoor orientation program at Miami University, Ohio, integrates several different campus departments into the program in order to expose students to a variety of perspectives and introduce them to valuable resources in the University environment.

- **Student Trip Coordinators** from the Outdoor Pursuit Center provide the logistical support in the field, including but not limited to; route planning, reservations, time control plans, energy control plans, safety control plans, transportation needs, lodging, equipment, site management, and the point of contact while in the field.
- **Student Facilitators** from the Orientation office provide the leadership and facilitation of daily processing sessions and monitor group dynamics. They also assist with trip logistics, transportation, and safety of the group.
- **Faculty** are often on the trips to provide this very important perspective for students. Professors are required to provide several sessions on their area of expertise, formally and informally. It is often outside of these sessions that the students learn the most from the faculty, that they are real people with fears and issues related to participation in adventure activities. In turn, faculty learn more about students and the issues they face in coming to college.
- **Professional Staff** from both the Outdoor Pursuit Center and Residence Life are participants on a few trips, offering yet another perspective for students to bounce issues and ideas off of during trip preparation, on location, and during follow up programs.

The students and staff of Miami Bound are interested in providing an atmosphere that addresses the following;

Anxieties- Reducing anxieties concerning academic and social life; such as leaving family and friends, understanding university expectations, managing college life, living in diverse communities, and residence hall life.

Excitement- Foster a sense of excitement about the Miami experience through: integration of the history and culture of the Miami Indian tribe into the university community, and an awareness of opportunities and resources available on campus.

Sense of Belonging- Provide a welcome sense of belonging to each and every individual that participants regardless of their history and background: this is developed through formal and informal interaction between student trip coordinators, faculty, and staff of the university.

Organized around a base of several student development and leadership theories, Miami Bound focuses its structure on situational leadership models where responsibility and authority to make decisions is transferred from trip coordinators to participants as they mature during the experience. Issues of self-responsibility and responsibility to the group are explored in this manner. Utilizing a combination of these different theories provides challenge and support in psycho-social and cognitive domains. Experiential learning opportunities provide for active exploration and experimentation concerning transitional issues and situations, as well as, real life consequences and outcomes related to how these issues and situations are handled. It is through these challenges that we believe students will grow in ways that may not be natural for them.

Challenges

Several obstacles are confronted by participants of Miami Bound, some are not as apparent to students but are rewarding when they worked through them. The physical challenge is often the most apparent, whether it be the adventure activity itself, or just living in the outdoors out of one's comfort zone, many incoming students struggle with this foundation of the experience. Mental challenges of problem solving, utilizing cognitive skills in the field, and working through issues with the group and self are all negotiated by participants in structured, and unstructured, activities and experiences. Roles and responsibilities of the individual for each day are developed in detail and rotated between the group members. Each participant will serve as leader for the day, navigator, weather monitor, morale monitor, camp chores crew member, safety monitor, and other roles in order to provide unique group dynamics to be discussed and framed as metaphors that can impact academic campus experiences. Group initiatives at the end of each day offer another chance to monitor the group and provide a more 'formal' setting for individuals to be heard and experiences to be shared. These initiatives provide a great challenge for young adults to work together and allow students an opportunity to gain more meaning from the expedition experience.

Supports

A supportive environment is provided through several areas, the first being the varied and unique staff as discussed above. Secondly, the processing of daily events is designed to provide an open forum that validates student issues allowing students quality time to share common and diverse feelings of the group and individual. This is accomplished through the appropriate framing of questions, sequenced questions and comments used by facilitators to help the group purposefully determine what is actually shared, how information is summarized, interpreted, generalized, and transferred to university life. Shared responsibilities offer additional support for the incoming student through constant application and opportunity teaching. During the review of the day, initiatives, and adventure activities, these responsibilities and activities serve as real metaphors that can be related to issues that will be confronted at school. Lastly, safety precautions are always enforced during adventure activities and travel. Skilled and trained staff, proper equipment, and emergency planning are all very relevant and real supports for each individual.

Framework

Implementing the above ideas and goals into a successful program has been greatly due to following three principles:

Situating the Learning Experience- framing of experiences and activities is critical to teasing out concepts and issues that need to be addressed;

Validating Students- listening and taking concerns of students seriously, as well as involving them in the development and implementation of the goals of the program, has tremendous impact upon the growth of the student while a participant in the program;

Mutually Constructing Meaning- group input and development of the goals, community contracts, and processing of daily events all mutually construct meaning of events and situations throughout the expedition experience.

The Process

Incoming first year students at Miami University are required to take a two day orientation program on campus the summer before school begins. Materials for Miami Bound are included in the packets that they receive for their campus orientation session. Selection of the type of trip desired warrants additional details regarding the specific activity requirements, equipment needs, and itinerary. After the campus session, those students who have selected to participate in a Miami Bound Outdoor Orientation program arrive at the Outdoor Pursuit Center for the welcoming activities and pre-trip preparations.

Several trips set out for their destination the day of arrival, some may stay one night on campus and begin bright and early the next morning. All transportation is by a fifteen passenger university vans, and begin and end at the campus. This is an important time for development of the group, several hours in confined quarters while traveling offers many opportunities for group and personal revelations.

The activity itself takes place in the outdoors, in a variety of settings and activity levels. Students may choose from the following list of sites and activities for their Miami Bound experience;

- Backpacking- Smoky and Rocky Mountain National Parks
- Whitewater canoeing / kayaking- Pike, Peshtigo, Wolf Rivers (Wisconsin)
- Flatwater canoeing / kayaking- Clarion River (Pennsylvania), Boundary Waters Canoe Area
- Rock Climbing- Devil's Lake (Wisconsin)
- Cycling- Southern Indiana

Transition, Bringing it Home

Pre and post-activity debriefings coupled with daily reviews and processing initiatives provide a thorough investigation into participants feelings, fears, and apprehensions regarding the activity, and how these encounters transfer to academic life. One of the most significant resources for both the individual and the group is a journal. Journals are kept by each individual, a separate one is provided for the group, to record their comments and observations. Observation and reflection of each activity, structured or not, is vital to the success of the program. Time is built into the course of the day for participants to write in personal and group journals. Sharing these issues is also important for the group to come together and grow, yet personal journals are also a source of escape and confidence that should not be violated.

Developing metaphors, abstractions, and generalizations about life in the university community is equally important in the transition process. Residence Life and Student Affairs can offer several publications and documents regarding the demographics and percentages of significant items regarding the student population that are relevant to orientation programs. Studying and using these within your program will assist with the development of the incoming students. Most importantly, all decisions, issues, fears, goals, problems, motivations, expectations, etc. must be framed with the university environment in mind while in the field.

Evaluation

As with all programs, evaluation of the transition experience is vital to its future success. Summative, qualitative, and quantitative evaluations are utilized in assessing the program in its entirety and the effectiveness of easing transition into academic communities. Of these, the most effective tool has proven to be the group journals and focus groups. Group journals are collected at the close of the experience and used for evaluation with several departments. Focus groups are arranged throughout the following semester to monitor the students' progress and transition. These sessions have specific facilitators and evaluations, but serve as a 'reunion' as well.

Lessons Learned

Develop Goals- determine the collective meaning of the program if operating in conjunction with other departments on or off campus;

Designate Responsibilities- be specific with job descriptions of students, staff, faculty, and other leaders within the program;

Determine Resources-

- Financial- Miami Bound is funded through two departments, determine the amount that each is responsible for in advance;
- Physical- natural areas, vehicles, adventure equipment;
- Personnel- summer availability with university student leaders, staff, and faculty is sometimes problematic. Our model utilizes two OPC staff and one Orientation staff with each group;

Determine Type of Trip-

- Base Camp / High Adventure / or Combination; It has been our experience that programs providing the greatest impact for incoming students have been the multiple-day, backcountry, experience because they provide more opportunities for group and individual dynamics to occur.

Communication with Students-

- Be specific and detailed in all promotional and registration materials;
- Address anxieties immediately;
- Be clear about the student selection process;
- Create firm deadlines for registration and preparation to allow for proper planning and participant communication;
- Develop concrete policies for cancellation;
- Provide alternative methods of communication, such as e-mail or a web page.

Summary

Offering outdoor orientation programs for incoming students has been very successful for Miami University. It has enabled students to confront issues of transition into the academic and social experiences of the university and enhance their awareness of the surrounding environment, resources, and support when they arrive. Most importantly, the program has provided several students the opportunity to work directly with a wide variety of individuals in situations where trust, communication, and responsibility are vital to the success of the individual and group.

> "Our trip is finally over, or is it? Is this trip a precept to the rest of our existence? The challenges that we encountered on the rock were just sneak peeks into the future. The way people engage the obstacles explain a person's attitude toward their life. Students come to college to change themselves into the people they want to be. The Devil's Lake experience has become somewhat of a metaphorical yardstick of where we are in our life."
>
> -Adam, Group Journal

TEACHING AVALANCHE SAFETY COURSES: INSTRUCTIONAL TECHNIQUES AND FIELD EXERCISES

By

Ron Watters
Director, Idaho State University Outdoor Program

ABSTRACT

No one debates the value of an avalanche safety course for those who spend time in the mountains during the winter. The problem is that avalanche courses are not as widely available as they could be. Outdoor programs, academic departments and other non-profit programs can provide an important public service by offering courses to the public, enhancing winter travelers' avalanche knowledge and skills. This paper discusses ways in which such courses can be structured, teaching techniques and helpful field exercises.

Introduction

Avalanche courses can be structured in a number of different ways. The most desireable format, and the one I most enjoy teaching, consists of two evening sessions, usually a Wednesday and Thursday followed by two field sessions on Saturday and Sunday. I realize that this is an ideal situation. You may not have the luxury of being able to offer a multi-day course. While I use the two-night, two-field session format as the basis of this paper, I also suggest ways in which you can structure shorter courses.

If you live in the interior west where avalanche forecasting is difficult and winter backcountry users are often at risk, then I strongly recommend trying to incorporate some type of field session along with at least one evening session. The field session helps reinforce what has been learned in the classroom, and it gives students the opportunity to learn the proper way of using avalanche transceivers. Transceiver instruction is particularly valuable since who own them have only a rudimentary knowledge of their use.

A Starting Point

At the beginning of any avalanche class, whether it is a one-night affair or held over a period of several days, I like to start from a historical perspective. One of the best ways of making the class relevant to your students is to discuss an accident that has occurred in your area. Such a starting point is also educational. Reviewing case studies and discussing the events leading to an accident and the accident itself is an effective way of teaching. There's always much to be learned from someone else's mistakes.

It's also an eye opener for some outdoor users. After several accident-free years in a backcountry area, people can be lulled into believing that avalanches just don't happen, or

if they do happen they don't kill anyone. Historical information to the contrary helps to dispel such notions.

Advanced Course Material

If you are able to hold an avalanche course over a period of several days, you'll want to spend the first couple of hours of class time on snow physics, covering the broad topics of crystal formation, snow crystal identification, and metamorphic processes.

The following is a suggested teaching sequence:

- Clouds. The types of clouds: water clouds, ice clouds, supercooled water clouds.
- Types of snow crystals formed in clouds: stellars, columns, bullets, needles, etc..
- Effects of riming on snow crystals: rimed snow crystals and graupel.
- Identification of precipitated snow crystals.
- Types of non-precipitated snow: rime and surface hoar.
- Equi-temperature gradient and temperature gradient metamorphism.
- Identification of metamorphosed crystals

An excellent source of information for this portion of an avalanche course is Field Guide to Snow Crystals by Ed LaChapelle. LaChapelle's book is filled with photographs of snow crystals. I use LaChapelle's photographs extensively in my lectures and have found that they are a wonderful visual aid.

In the past, LaChapelle has been generous in allowing the use of his photographs for classroom use. First write for and obtain permission from the publisher (University of Washington Press). Once permission has been granted you can make scans or have a photographic service make slides of the photographs from LaChapelle's book. The visual clues the slides provide will later help when students are identifying snow crystals in their snow pits.

Snow crystal identification is followed by a discussion of equi-temperature and temperature gradient metamorphism. Once again, LaChapelle has some excellent photographs which illustrate the changes happening to snow crystals as each of the processes take place.

To do it right, plan on at least two hours to cover snow physics. In my courses that's all I do the first night. The next night is allocated to the more interesting subject of the causes and behavior of avalanches. If you have only one night, however, then you'll want to minimize the amount of time spent on studying snow. Metamorphic processes can be confusing and can side track some students, causing them to miss some of the important safety material. If your time is limited then identify some basic snow crystals and dispense with snow physics altogether.

Teaching Hints and Use of Visual Aids

If you spend a considerable amount of time outdoors in the winter, you'll be able to gradually accumulate a collection of slides which can be used to supplement your avalanche courses. Friends and skiing companions may also have good slides from which you may make duplicates.

One slide a friend gave to me is, of all things, a photograph of a bridge. It is, however, a significant bridge from an avalanche standpoint. About 25 years ago, his father had taken a photograph of a bridge built on Teton Pass just outside of Jackson Hole, Wyoming. When designing the new road, highway engineers were well acquainted with one

especially nasty avalanche on the pass known as Glory Slide. To deal with Glory, the engineers decided to build a bridge which spanned the path of the avalanche. The idea was that when Glory Slide came down, it would go under the bridge, forgoing the need to close the road, a frequent and annoying happening on the Teton Pass. Alas, during the first winter, before the highway was opened, Glory Slide came down and took out the bridge.

During the lecture, I first show my friend's photo of the bridge. Then I show a photo in the winter taken from the same place the year after the bridge. The two slides--the first showing a bridge and the next showing no bridge--are powerful visual tools to illustrate the tremendous force of avalanches.

As another example of how you can use slides and overheads to make your avalanche lecture more interesting, let's use the topic of settlement as an example. Settlement is important since it provides a visual clue to the backcountry traveller how quickly a new snow fall is stabilizing. When I talk about settlement, I first show an overhead of an illustration of a snow pack made up of stellar snow crystals, the arms of which are keeping adjacent snow crystals far apart.

Side by side on the overhead is a second illustration showing a snow pack with equi-temperature snow grains. The rounded snow grains pack together easier and the illustration graphically shows that the snow pack has settled. This isn't anything out of the ordinary. The illustrations are commonly found in avalanche texts. Moreover, it easy enough for anyone to make up such overheads using colored fine point magic markers.

While the illustrations on the overhead are still visible, on a second screen I project slides of a meter stick placed in the snow measuring total snow depth. The first slide is a close up showing the total depth of the snow pack after a new snow fall. The second shows the total depth (now reduced) after a few days of moderate temperatures. The two forms of visual aids, overhead and slides, compliment one another and help make your lecture more understandable.

Use of Anecdotal Material

Another useful teaching technique which adds color and texture to an avalanche course is the use of anecdotal material. Any course is more interesting when it is supplemented with personal experiences or the experiences of others. Everyone likes a story or two and used effectively, they can help in your student's understanding of the material at hand. The accident reports found in Snowy Torrents are a good source of anecdotal material, but you can also glean information from newspaper reports and outdoor narratives.

One story that I tell and illustrate with slides is about a journey that I took a number years ago down Marsh Creek which is one of the source streams of the Middle Fork of the Salmon River in Idaho. As we began skiing into the canyon we noticed very large sunballs on the hillsides. The sunballs were about four days old.

Sun balls are one of the indicators of equi-temperature metamorphism which is a good sign, a sign that the snow pack is stabilizing. It's a good sign, however, as long as the sun balls are small. When the balls get larger, it indicates that free water is percolating deeper into the snow pack, lubricating old crust layers or worse yet, lubricating a depth hoar at the bottom of the pack.

It wasn't too long on our trip before we came across the deposition zones of some incredibly large avalanches. The avalanches were about the same age as the sun balls, about four days old, and they were impressive. One after another, they had come hurtling into the canyon, descending 2,000 to 3,000 feet and ripping out mature ponderosa pine three feet in diameter. About midway through our trip, we came upon one massive avalanche which had dammed Marsh Creek. The four of us on the trip stood in awe, looking at the huge pile of snow and the place where the water had finally breached and cut an icy "V" through the face of the rubble.

The Meat of Any Avalanche Course

Whatever format your avalanche course takes, you'll want to pay particular attention to the material in this section. This is the meat of an avalanche course, where the lecture centers on the causes of avalanches and ways in which outdoor travelers can protect themselves. Before going too much further, however, I want to advise caution. If you are not careful how you structure this part of the course, it can get confusing and even contradictory. Different instructors will use different ways of approaching the material, but I like to divide the lecture into five bit-sized pieces. I classify the causes of avalanches into five basic factors, in this order:

1. New Snow (amount of new snow, crystal types making up the new snow fall, degree of new snow settlement)

2. Old Snow or Existing Snow Pack (surface of old snow, depth of the snow pack, layering and types of crystals within the snow pack)

3. Terrain (steepness of slope, slope aspect, anchoring features, i.e. tree and brush)

4. Wind (transporting effect of wind, effect of wind on crystals, windward & leeward slopes, deposition areas)

5. Temperature (storm trends, warm temperatures helps stabilize packs to a point but too warm creates very unstable packs)

The use of a combination of slides and overhead overlays as discussed earlier can make this part of the lecture particularly effective. Use drawings on the overhead to illustrate basic concepts and then slides from backcountry trips to illustrate specific instances.

I'm a believer in picking out one fact whenever you give a lecture. I tell the class that if they remember anything in the lecture, remember this one fact. For avalanches it is this: avalanche danger is greatest during and shortly after intensive snow falls. Since it is so important, it is the first topic that I cover. It's easily illustrated. Just use a slide that you've taken during a blizzard.

There's plenty of source material available which you can use to prepare your lecture, and it's beyond the scope of the this paper to go into any detail. What's important here, however, is how the material is covered. One of my goals in presenting the material is to try to keep the material tied as closely as possible to local areas. For instance, when discussing slope angles (which I cover under the "Terrain Factor") I use examples that my students will be familiar with. I have gone out to a number of nearby Alpine and backcountry areas and have used an inclinometer to measure slope angles. I then show the slides of each area, explaining what the slope angle is and the degree of risk associated with it.

Covering each of the five factors can easily take a couple of hours. If it is a one-evening course, you'll want to be sure that you leave room for a discussion of route finding, safety equipment and rescue:

- Route finding (safe routes, semi-safe, dangerous routes)
- Safety procedures (expose one at a time, use islands of safety, never ski or travel above another, have an escape route)
- Safety equipment (transceivers, shovels, probe poles)
- Rescue (what to do if caught, procedures to follow for survivors)

In my four-day courses, I'll save route finding, rescue and safety procedures for a short indoor session before the first field session. It provides a good introduction to the actual skills which will be practiced in an outdoor setting.

Field Sessions

Field sessions are typically held on the weekend. Having one field session in addition to an evening theory class gives you another chance to review important parts of the class. It gives students a chance to process the information that they've learned and increases the likelihood that they will remember it. Most importantly, it gets students actually outside in the snow practicing avalanche safety skills.

I highly recommend that you hold field sessions in safe locations near a parking area. Unless you are teaching professional courses for ski patrollers or backcountry guides, it's not necessary to take a class up on a steep mountainside to dig snow pits and practice searching techniques. Remote locations take time to reach and invariably someone in the class doesn't have the equipment or skill to make it to and from such locations. If you're close to a parking lot and someone gets cold, he or she can easily return to a vehicle and warm up. That's not possible in the backcountry.

When avalanche courses are offered to the general public or, for that matter, to the general student body, you will end up with a great range of abilities and fitness levels. Several years ago, I had a woman in a class who had been ill the week before. The field session was held on a cold day, and still weak from her illness, she became hypothermic. By the time we realized something was wrong, she was already so faint and cold that she had to be carried to the nearby ski lodge. Fortunately, she recovered quickly at the lodge, and we were able to continue the class without much of a disruption. If, however, we had been in remote location, a simple avalanche class would have turned into a survival epic.

When it comes time to determine the location of the field session make sure you find a place with adequate parking, and, if possible, nearby slopes. If all you have to work with is flat, snow covered terrain, you can still hold a fairly effective and informative field session. You shouldn't forgo a field session simply because you don't have ideal terrain.

Pay particular attention to the location of the snow pit. I often use a steep slope at the base of our local ski area which I know is perfectly safe. If I'm not at the ski area, then I look for small gully running through a wheat field. Ideally, you want a short, safe slope or the side of the gully with at least a 30 degree angle for doing sheer and Rutschblock tests. Once again, if you can't find an ideal slope you can still demonstrate the basics of digging and analyzing a pit--even on level terrain.

A good way of approaching the first field session is to set up three stations. The class divides into three groups, each group spending an hour at a station and then rotating to the next station until all three have been visited. The stations are:

- Transceivers
- Probing (Coarse and fine probing)
- Snow Pit

In the transceiver session, students learn how to conduct transceiver searches. After a brief introduction, transceivers are buried and participants spend the rest of the time doing searches. The second station, the probing station, should be held in a disturbed area of snow. By walking around and throwing snow around with a shovel, you can make something that appears to be an avalanche path and deposition area. Within the disturbed area, before the group arrives, bury a dummy (a pack full of clothing works adequately). Course and fine probes are explained to the group, and then the group is allowed to organize itself and attempt to locate the buried "victim." The probing session, although tedious, is usually enlightening in that it shows how difficult it is to locate someone even in

small avalanches. Too, it helps reinforce the importance of using transceivers when traveling in avalanche country.

One hint with the probing session: be sure to strap a transceiver to each dummy you bury. A climbing friend of mine was helping me teach the probing session one year, and for the buried victim he used a racksack sack with his climbing rope inside. The first group came up to his station and after some basic instruction, started going through a coarse probe and then a fine probe. In the end, they were unsuccessful in finding his pack. The next group came up and after an hour, they were unsuccessful. Finally, the third group arrived. After my friend explained that the previous two groups were unsuccessful in finding his pack, the students were determined to find it. But after another hour, they, too were unable to find it.

By this time the slope had been so disturbed that my friend had no idea where he had buried his pack. We dug for several hours looking for it and eventually had to give up. It wasn't until months later in the spring that he returned and finally found it just starting to melt out of the snow.

The last of the three stations is a snow pit. At this station, students are talked through the steps of digging and analyzing a hasty pit. They look for layers in the snow pack, pick out crystals and try to identify them. Once they've had ample opportunity to look at crystals, sheer tests are done followed by a Rutschblock test. Any new crystals turned up by the tests are examined. When everything is finished, the students make a guess of how stable they think the pack is.

The equipment needed for a snow pit won't break the budget: hand lenses for everyone, a couple of thermometers, snow cards, two or three compasses with an inclinometer and some flash cards. The flash cards I use are home made and are simply drawings of precipitated and metamorphosed crystals. I found the flash cards very helpful, holding them up and talking about identification characteristics while students are looking at crystals through their lenses.

Second Field Session

If it is possible to offer a second field session, then, by all means, do it. The second field session reinforces the first, and it gives students greater freedom to practice skills. This is the time in the course to step back as an instructor. You can provide some introductory guidance and answer questions on a one to one basis, but give students lots of time to do their own work.

I concentrate on two field exercises: transceiver searching and profiling snow pits. For transceiver work, use a much larger search area than what was used the day before. Make the searches more challenging by burying more than one transceiver at a time. By timing each of the searches with a stop watch, you can add an element of urgency. I make sure that all students do at least three searches on their own.

While one half of the class is working on the transceiver search, the other half of the class is working on snow pits. Have them work in pairs and give each pair a clip board with a snow profile chart. They, then, dig their own pit, graphing out the pit profile, and indicating on the chart where and what snow crystals are found. After doing some sheer tests and a Rutschblock test, they give the pit an overall stability rating.

Videos and Avalanche Forecasts as Teaching Tools

It isn't until the end of the class after the field session that I use videos. I think that instructors tend to over rely on videos and let them do the teaching for them, but towards the end of a course, after the instructor has done his work, a video can be a very useful tool in reviewing previously covered material in a more visual and entertaining manner.

Lastly, something that I always try to incorporate in any class is information on where to find avalanche forecasts. For more advanced avalanche classes, you'll probably want to take it one step further. Print up a couple of avalanche forecasts off the Internet and hand out copies to everyone. Internet avalanche forecasts are terrific learning tools. The

terminology used in the class, the metamorphic processes that you've discussed, the snow pits that students have dug in the field sessions, all come together in a practical way in an avalanche forecast. Read through the reports and ask questions about it to stimulate discussion among your class.

ADDING VALUE THROUGH PROGRAM INTEGRATION: A KAYAKING MODEL (RENTAL, RETAIL, REPAIR, CLINICS AND OUTINGS)

By

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ABSTRACT:

This paper addresses the subject of adding value to outdoor programs through developing integrated program areas. The integration of Rental, Retail, Repair, Clinics, and Outings (RRRCO), allows a synergistic approach to cutting costs, increasing income, offering expanded services, and increasing the quality of services rendered. A recently created kayaking program at Brigham Young University (BYU) Outdoors Unlimited will be used as a model. Although not all aspects of RRRCO are available to every program, integrating those possible can be beneficial.

Outdoor programs often make initial financial commitments to a service or product and then overlook the potential to expand it. A significant portion of program expenses are incurred in the service or product's initial costs. Further development of these can provide a greater return on the investment through the stimulation of additional interest, participation, and income. Integration helps foster education, staff proficiency, and a positive reputation among the campus community as a knowledgeable and reliable organization. Though integration is not a cure-all, it is a viable means to adding value to outdoor programs.

OUTDOORS UNLIMITED KAYAK MODEL:

To begin, I would like to introduce the 'model' that currently exists at BYU Outdoors Unlimited. During the eight years prior to August 1996, the program had two whitewater kayaks; they were sold in 1995. In August, five new kayaks were purchased for rentals; two months later we purchased six more. The next step was to purchase the necessary accessories to rent with the kayaks. We talked to other people, such as the University of Utah Outdoor Program, in an attempt to find the best products for the price and durability. Between outside recommendations and our experience, we chose the following accessories: North Shore standard sprayskirts, Perception split floats, Perception River Passage paddles, Pro-Tec full-cut helmets, and MTI Cruiser PFDs. I am happy to say that all of this equipment is holding up very well.

In April of 1997 we became a Perception retail dealer; a month later we became a Dagger dealer. This change prompted the purchase of six additional kayaks to serve as rental/demo boats to help round out our selection. Our rental inventory was then comprised of: Perception Whip-It, Whiplash, Pirouette, Pirouette S, Overflow, Super Sport (x2), Corsica Matrix, and Dagger RPM, Vertigo, Animas, Outburst, Crossfire (x2), and Freefall LT. These fifteen boats cover most ability levels and designs and give our customers a great selection to choose from.

For retail we purchased the following kayaks: Vertigo, RPM (x2), Outburst, Whip-It (x3), Animas (x2), Overflow (x2), Overflow (X), Pirouette (S), and Blast. To complement our boats, we purchased accessories from such companies as: Werner, Perception, MTI, Salamander, Lochsa Connection, PD Designs, and Orosi. We also purchased kayaking related books and videos for retail.

Instruction clinics were the next component that we added to our kayak model. We began offering a flatwater kayaking class that met for four, two-hour sessions at a local indoor pool. The class covered basic safety, dry & wet exits, bow rescues, forward and reverse sweeps, forward and reverse strokes, draw strokes, stern draws, and Eskimo rolls. The course cost $80.00 and was open to students and community members, as are all of our services.

The last part of our model is outings. We offered a kayaking trip in conjunction with one of our rafting trips. The cost was $69 and included transportation, food, and kayaking equipment. The trip included Class I-II+ water with plenty of flatwater between rapids for retrieval of swimmers. The participants felt that it was a worthwhile experience and I think that we will do more such trips in the future.

RRRCO INTEGRATION

The four components of this model work together to generate participation, income, education and training. I have termed the concept of integrating Rental, Retail, Repair, Clinics, and Outings as RRRCO. A bicycle wheel, as shown in Figure 1, can be used to illustrate the concept. A wheel is comprised of a hub, spokes, and rim. The hub is a primary component and is responsible for the integrity of the wheel. As you add spokes to the hub you begin to lace the rim. The more spokes, the stronger the wheel. In the BYU kayak model, I liken the rental kayaks to the hub. It is the primary element of the model and without it we would not have added anything else. The retail, clinics, and outings all serve as spokes to strengthen the integrated model.

Figure 1

Our program made an initial investment in purchasing kayaks for rental. This by itself would generate revenue for the program, but by utilizing the same investment for activities other than rentals, we have the opportunity for additional revenue. We use our rental kayaks for rentals, instruction clinics, retail boat demos, and outings.

Our retail boats and accessories help support our instructional clinics by providing supplies, such as noseplugs for the students. In addition, educational books and videos are available to help round out the students' instruction experience. The retail boats stimulate additional rentals as people try to determine what boat to buy.

The area of kayaking doesn't lend itself very well to repair services, but we do sell retrofit backbands and fit kits. We are also available to offer advice and assistance in installing these items. Repair does however play a major role in the rest of our operations. We offer a full service bicycle, ski, and snowboard repair shop. These services bring customers into our store, exposing them to additional services and products, consequently generating additional revenue.

Our clinics provide another opportunity for exposure to our program. We teach our clinics from 9 P.M. to 11 P.M. using boats in the off times. Many of our clinics are taught during the fall and winter when there is virtually no rental activity anyway. This allows us to maximize the return on our initial investment on our rental kayaks. If we didn't teach clinics, our kayaks would sit idle in our store for at least six months of the year. The clinics also promote accessory and kayak sales.

Though we only offered one outing this year, we can see the potential benefits from doing so. The students from our clinics are our primary audience and we have another opportunity to gain their confidence and loyalty. We use rental boats and promote an interest in purchasing kayaks. In addition, we hope to see an interest in kayaking generated in the rafting participants that are on the trip. Future outings will give us a better idea of the benefits of these outings in the RRRCO model.

VALUES AND BENEFITS

As the components of the RRRCO wheel work together to support each other, BYU Outdoors Unlimited realizes growth and benefits. These benefits can be categorized as: 1) Financial; 2) Staff Training and Development; and 3) Quality of service. Each outdoor program is different and may measure success differently. Some universities have asked their outdoor programs to offer as many services to students as possible with little or no concern for profit; other programs are asked to be self-supporting; and some are asked to do a little of both. With that in mind, much of the following data is financial, as BYU Outdoors Unlimited is often measured financially first and by service second.

Financial

There were three main areas to investigate to measure for financial success of the RRRCO model: 1) Rental Income; 2) Sales; and 3) Instruction Clinics. Note: The financial figures included in this paper are approximations.

Rental income was measured by examining: 1) Rental Frequency; 2) Income; 3) Expenses; and 4) Participation. During the eight years prior to implementing RRRCO, the program recorded a total of 155 kayak rentals, with a peak year of 41 rentals. Within the first twelve months of starting RRRCO, beginning August 1996, Outdoors Unlimited realized 101 kayak rentals, see Figure 2. These rentals include the use of kayaks for the clinics with one rental being assigned per student, per four week clinic. These 101 rentals were, in my opinion, a great indication of a successful program being started. During the first four months of the RRRCO year #2, Outdoors Unlimited recorded 67 rentals. Given the fact that three of these months include September, October, and November, which typically see no rentals, year #2 looks promising.

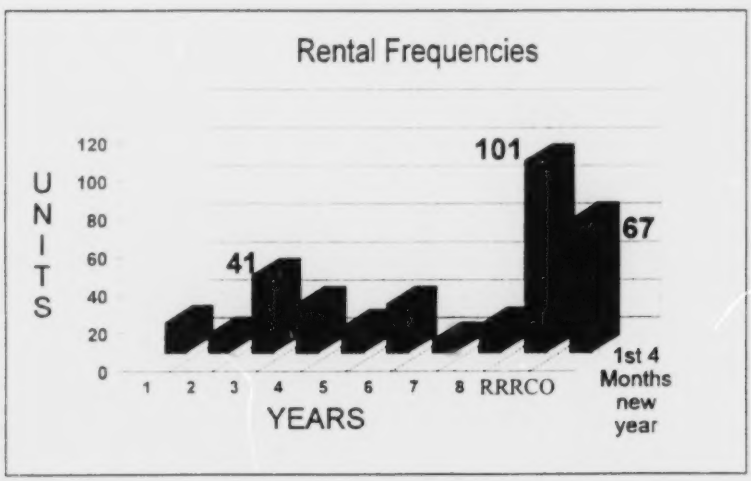


Figure 2

The rental gross income looked equally impressive. During the eight years prior to implementing RRRCO, the program recorded a total of $4,121 in kayak rentals, with a peak year of $1,071. Within the first twelve months of starting RRRCO, beginning August 1996, Outdoors Unlimited realized $3,177 in kayak rentals, as shown in Figure 3. During the first four months of the RRRCO year #2, Outdoors Unlimited recorded $1,960 in rentals. The frequency and gross income appear to show signs of success.

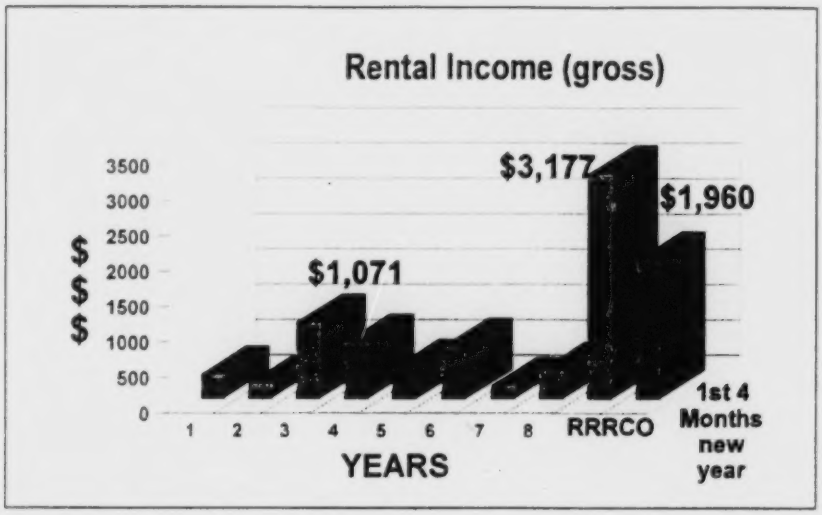


Figure 3

The next area that I looked at was a comparison of incomes and expenses. In addition, I attempted to make a realistic projection for the first three years of RRRCO in order to determine the break-even point. In this comparison I included: 1) Gross Rental Income; 2) Expenses; and 3) Overhead. Expenses included the price of the kayaks and their related accessories. For overhead, I used 25%, which is an approximate calculation for the kayaking equipment. Including overhead is a necessary part of evaluating the financial status of a given product or service. Some of the overhead for our program would include: rent, utilities, salaries and wages.

In making the projections I left the incomes and expenses at the same levels for years two and three. It is probable that the income will increase during these years allowing for an earlier break-even point. At the end of the three year period there was a projected profit of $1,100 from kayak rentals. Besides the $1,100 the program would have their rental kayaks and accessories paid for. The resale value of this equipment would be relatively close to the original purchase price because the equipment was purchased at significant discounts. From these figures, it appears as if the rental kayaks and accessories were a financially successful investment for the program.

	RRRCO #1	RRRCO #2	RRRCO #3
Gross $$$	$3,200	$4,000	$4,000
Expenses	$6,900	$200	$200
Overhead	$800	$1,000	$1,000
Run.Total	($4,500)	($1,700)	$1,100

Figure 4

The next area to examine was retail kayak sales. This paper does not have the retail accessory sales included which would have helped paint a more accurate and positive picture of the financial figures. As shown in Figure 5, there were $4,930 in gross retail kayak sales. The Cost of Goods Sold was $3,545; the Overhead was $1,232; leaving a Net Income of $152. Through not measured, I know that having the kayaks in the store, has brought people in who would not have normally come and they have spent money on goods and services not related to kayaking.

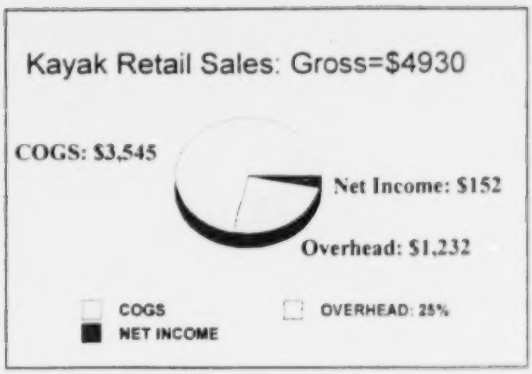


Figure 5

Our instructional clinics have also generated income. Figure 6 includes data from three classes taught by Outdoors Unlimited, fees collected by employees taking the clinics at reduced rates, and kayak rental income from clinics external to our program. In Figure 6, the initial income is shown and then the expenses are subtracted out for pool time, instructors, etc.. Then our rental accounts are given credit for the kayak rentals from the clinics, our program clearing about $436 in instruction fees from teaching three clinics.

The financial data seems to indicate that the RRRCO model has been worth our time and money. We are generating additional income for our program and are projecting positive growth.

- Three kayaking clinics; 20 Students @ $80
- $100 employee class fees

Income:	**$1700**
Expenses:	**$ 784**
sub-total:	**$ 916**
Kayak Rental:	**$ 480**
NET INCOME:	**$ 436**
Other rentals:	**$ 768**
	$1204

Figure 6

Staff Training and Development

Financial returns on an investment are often easier to measure than is the value of training and development. We have noticed about four key points that come about because of our RRRCO Integration. The first is an increased product knowledge among our staff. Before integrating the staff had a basic understanding of the procedures for renting out the kayaks. Because we are so involved with kayaking now, our staff knowledge has greatly increased. Many of our staff have taken our clinics and spent time kayaking on the river this past summer. When a customer comes into the shop to rent or buy a kayak, the staff members are able to answer questions and share personal preferences for kayak designs.

This knowledge and involvement allows for a transfer of enthusiasm from the staff member to the customer. The customer can tell that the staff enjoys the sport and is knowledgeable. This leads to increased customer confidence and enthusiasm.

By taking the clinics, staff can gain new skills and further develop the skills that they already possess. Kayaking can be a challenging activity for people to learn and there is often a sense of accomplishment after completing a clinic and learning these skills. This sense of accomplishment is beneficial to the morale of the employees and creates a common bond between them.

Some of our employees have now had the opportunity to teach in our clinics under the direction of a lead instructor who is certified by the American Canoeing Association (ACA). These staff members have done an excellent job for us and they enjoy sharing their new-found knowledge. Teaching usually helps the instructor as much or more than the student.

Quality of Service

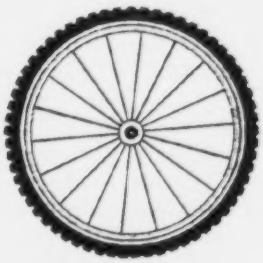
As mentioned earlier, the integration has produced a more knowledgeable staff. This knowledge is evident to the customer and helps us build a positive reputation with the campus and surrounding community. A good reputation does wonderful things for business.

Because of the integration, we now have a terrific selection of products available to our customer for rental or retail. There is no one else in the area that has the products that we do and the community knows of our wide selection. We are creating a 'One stop shopping' environment for kayaking related equipment. Perhaps we will win the loyalty of the kayak customer and they will utilize our other services as well.

RRRCO Integration has helped us to realize benefits financially, through staff training and development, and by an increase in the quality of service that we offer to our customer.

APPLYING THE MODEL

With the background of the BYU Model, a look at the values and benefits, it is now time to discuss the process of applying these principles in other outdoor programs.



The first step in doing this is to identify a 'hub'. This hub is the initial service or product that you want to expand in your outdoor program. Here are a few ideas of ways to come up with that hub. Look for items in your program that typically just sit around during their off season, like our rental kayaks. Perhaps you could search for products that you have made a significant initial investment in. Doing this may help you expedite the process of recovering your costs. Maybe there is a large quantity of a product in your program that never goes out and you would like to increase its usage. And last of all, maybe there is something that you would like to promote just because of your interest in it.

With the hub selected, it is necessary to determine how much time and effort that your outdoor program is willing to invest in the expansion of service or product. This decision may be influenced by the amount of money and/or time that is available to you. A larger return on a product often requires a larger allocation of time and resources.

Then select what aspect of the RRRCO Model that you want to use: Rental, Retail, Repair, Clinics, or Outings. Each program will have different circumstances to work with. It is my feeling that trying one area at a time is probably a wise decision. The BYU example happened very quickly and could easily have been less successful. After selecting the RRRCO aspect, give it a try.

Re-evaluate your progress as you go along. As indicated by the projections, our rental kayaks will take about three years to pay for themselves. Understand that some projects yield quick results and others take longer. It you feel successful in your RRRCO integration, select another aspect and follow the process again. You will get a feel for what it successful for you program. After expanding a hub, you will eventually reach the limit for that product. That's OK. Look around for another 'hub' and expand.

CONCLUSION

I hope that I have illustrated how outdoor programs can add value through developing integrated program areas. RRRCO can help program directors increase income, offer expanded services, and increase the quality of services that they are delivering to the customer. The BYU Kayak Model or RRRCO, provides an example of what one program has done with integration. It is not my intention to suggest that RRRCO will work in every situation, but it will be helpful in many.

RRRCO can help offset the initial investment cost that outdoor programs make in services and products by increasing the income produced from them. This process also provides opportunity for staff training and development. RRRCO enhances the reputation of outdoor programs in the campus and surrounding community.

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1997 STATE OF THE OUTDOOR INDUSTRY REPORT

By

David Secunda
Executive Director
Outdoor Recreation Coalition of America
PO Box 1319 Boulder, CO, 80302
303-444-3353

ABSTRACT:

Outdoor recreation is incredibly prevalent in American society today with over 94.5% of people over 16 participating in some form. That adds up to over 189 million participants every year. There are few other activities of any kind that have that high a level of participation.

All of these growing numbers of recreationists are buying and renting more and more gear as well. The outdoor, bicycle and ski industries now contribute more than $40 billion a year to the US economy and constitute 768,000 full time jobs, not even including the travel and tourism economic contributions. These statistics stand up very favorably in comparison to other mainstream industries

A term that has become quite widely used to describe this diverse group of activities is the "human powered" outdoor recreation. This is the group of activities that I will address in this report. Inclusive in this category are sports such as:

- Backpacking
- Bird Watching
- Camping
- Canoeing
- Caving
- Hiking
- Kayaking
- Mountaineering
- Mountain Biking
- Nordic Skiing
- Orienteering
- Rafting
- Rock Climbing
- Scuba Diving
- Snowshoeing
- Trail Running
- Trail Walking
- Urban Bicycling

1997
STATE OF THE INDUSTRY
REPORT

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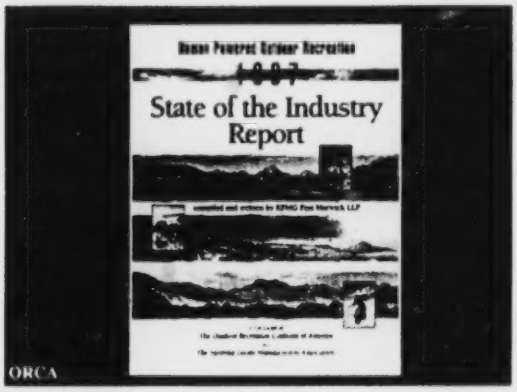

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www.orca.org

ORCA

www.sgma.com

SGMA
Sporting Goods Manufacturers Association

Compiled by
KPMG Peat Marwick

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Presentation Overview

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Outdoor Recreation
is Serious Business

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Human Powered Outdoor
Recreation (HPOR)

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Human Powered Outdoor Recreation (HPOR)

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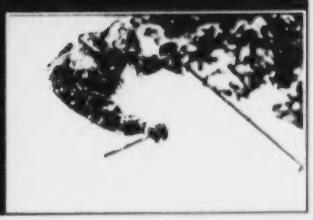
Human Powered Outdoor Recreation (HPOR)



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Human Powered Outdoor Recreation (HPOR)

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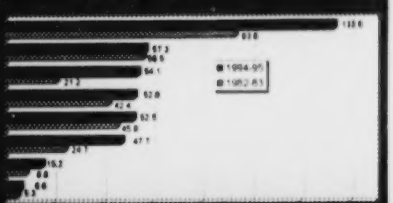
Top Activities & their Growth



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Who are the "Enthusiasts"?

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Enthusiast Profile

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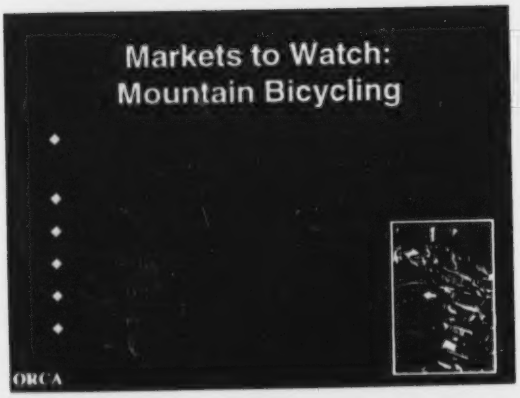

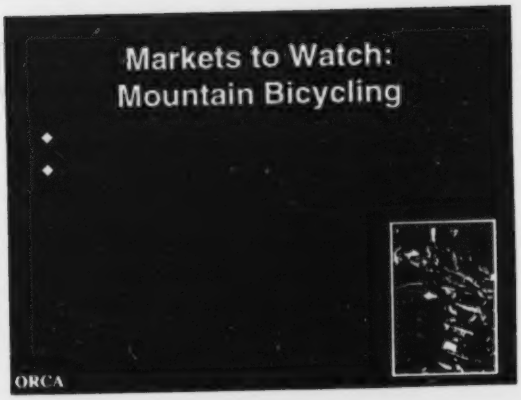

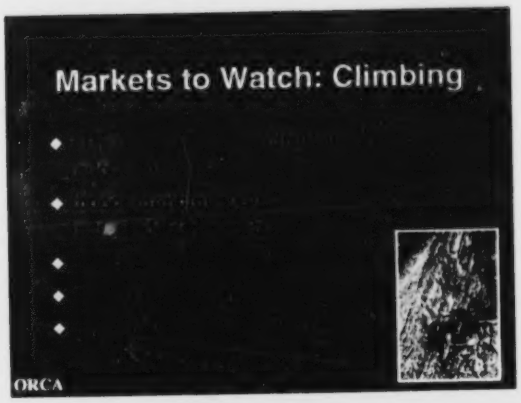

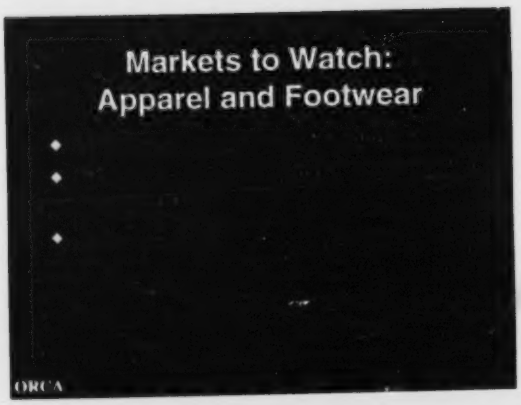

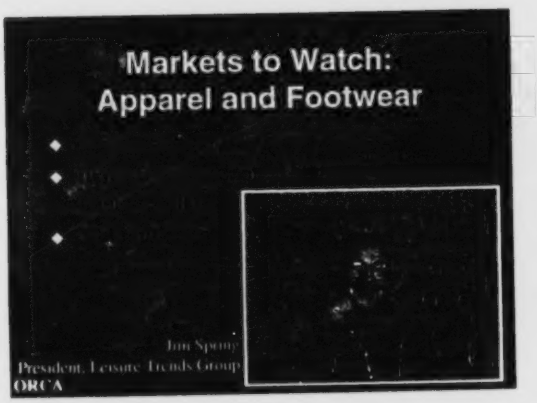

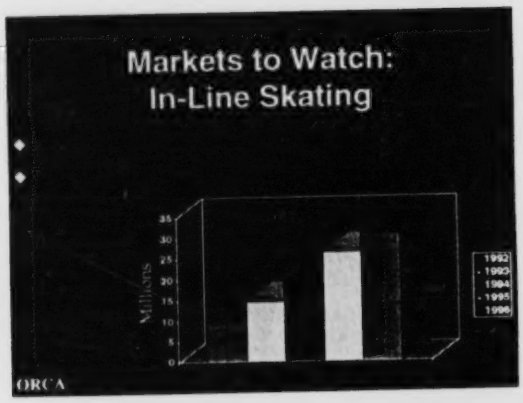

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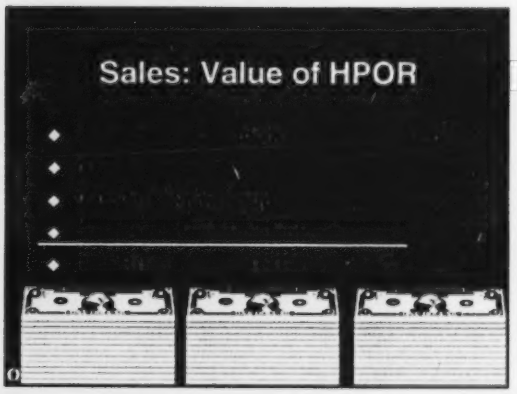

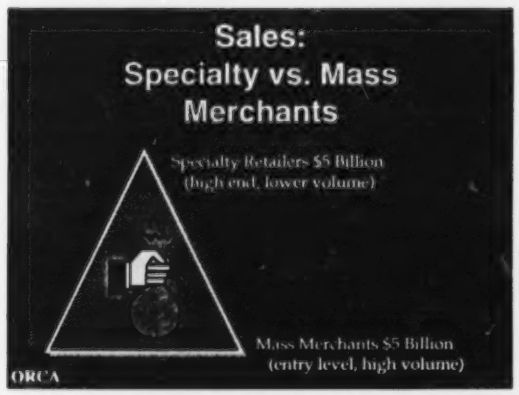

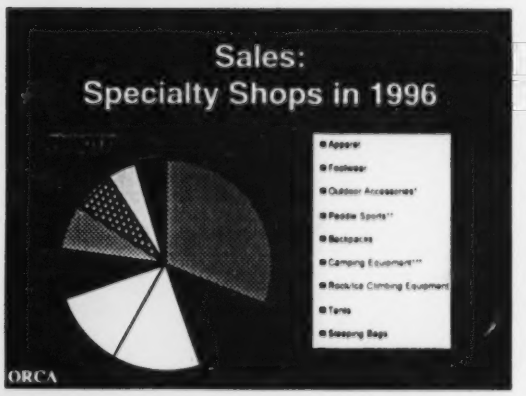

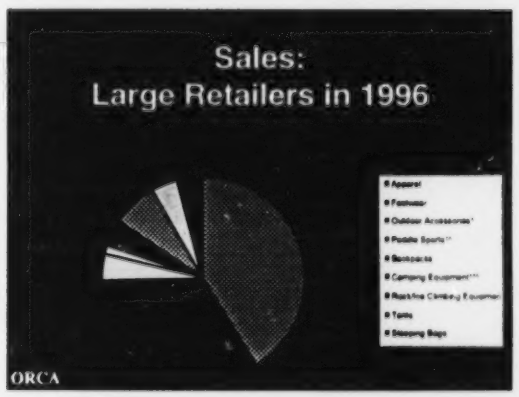

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Sales: Points of Interest

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Contribution to the US Economy

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Contribution to the US Economy from USDAFS Land

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Trends & Challenges: The Big Picture

	70's Go the distance	90's Do it now
Kayaking	A to B	Rodeo, Surf, Irag.
Climbing	Big Walls, Long Rts	Sport Climbing
Biking	Touring	Slick Rock

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Trends & Challenges: Lifestyle

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Trends & Challenges: Lifestyle

Jim Spreng
President, Leisure Trends Group

ORCA

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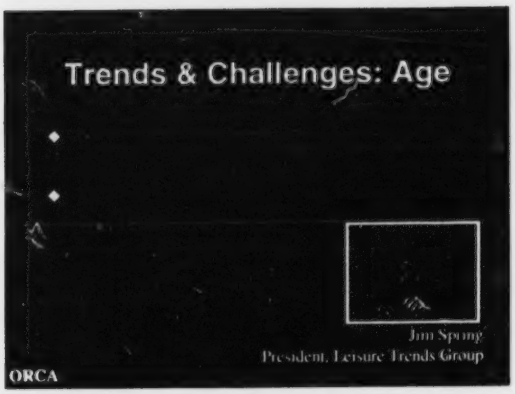

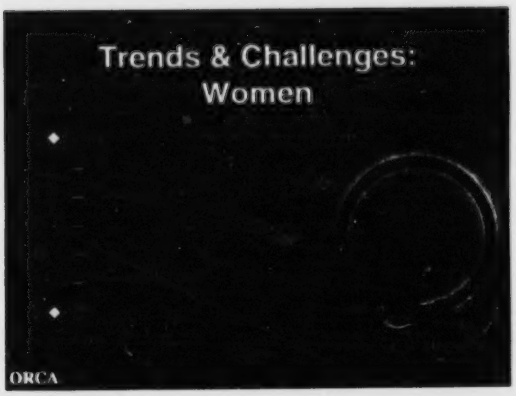

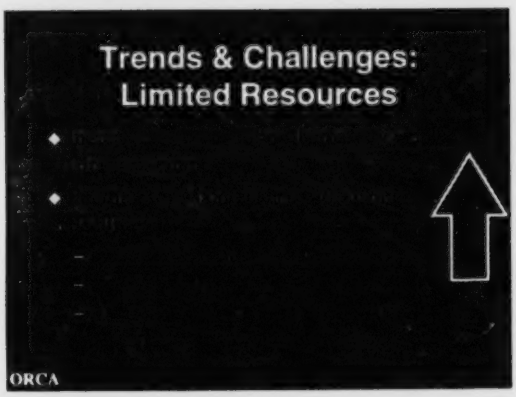

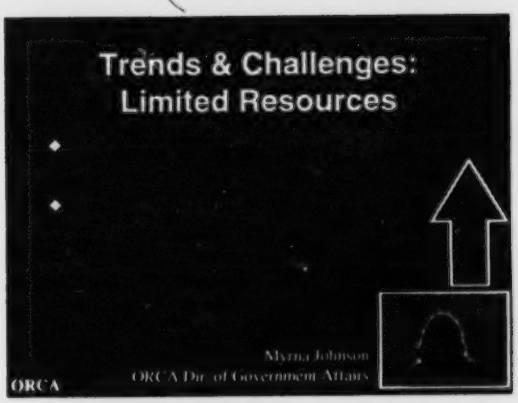

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Trends & Challenges: Government Affairs

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Trends & Challenges: Government Affairs

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Trends & Challenges: Government Affairs

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Summary

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Ordering the 1997 State of the Industry Report

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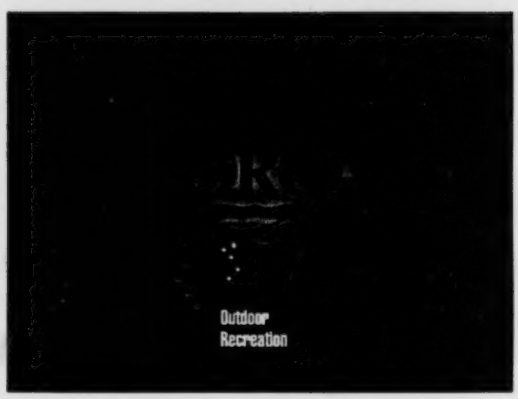

Permits to Operate: International Context

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I. Discussion Points

In addressing the goal of operating a successful outdoor recreation/education program in a foreign country, discussion centered on how to contact and build working relationships with land managers, regulatory or law enforcement authorities, universities and recreation partners. Two primary points were addressed:

1) Concerning resource management and access, what may be required to successfully operate in foreign countries?

2) What are the proper protocols and professional standards recreation/education programs should adhere to or strive for when operating internationally?

While discussion centered on administrative or bureaucratic hurdles to operating internationally, it was emphasized that all programs working internationally should strive to:

* Understand the needs of land owners and managers.
* Practice and promote state-of-the-art resource protection and minimum impact practices that are specific to your area of operation.
* Research and promote environmental education programs that are specific to your area of operation.
* Research and promote cultural, historical, scientific and other educational programs that are, again, specific to your area of operation.
* Know and understand local customs, ethics and values as they relate to use and enjoyment of natural resources.
* Always operate in a professional, courteous manner.

Main points:

1) Levels of regulation and administration on public lands will vary widely depending on the country you visit. Our two primary points of discussion were Mexico and Canada. In Mexico, little is required in the way of formal permits or fees. Canada, is similar to the United States in requiring permits to operate.

2) Even if formal permits are not required, programs should always check in with and work with local land managers or law enforcement authorities.

3) Even if permits are not required, have local authorities document your activities. This will establish a track record should a permitting process be implemented.

4) An absence of land use permits and fees does not mean your program is exempt from regulation and taxation. In Mexico, numerous regulations and fees exit around tourism and transportation of organized groups. These include authority to transport groups, insurance and fees. All such logistics must be investigated before arriving in your host country.

5) When looking to initiate programs in a new country or even a different region of a country, do your homework.

* The best rule of thumb is never ask a bureaucrat a question you don't know the answer to. Whenever possible, secure information from others with experience in the area.
* Investigate the history of resource management, administrative/bureaucratic practices of land managers, and needs of local authorities before asking basic questions.
* Once a bureaucrat is on record with a given position or answer, it becomes much harder for them to alter their stance to accommodate your specific needs.

6) Network with colleagues in the outdoor recreation field who may have experience in a given country or region.

* Programs such as Outward Bound and NOLS have operated internationally for decades.
* Contact local tourism organizations, adventure travel associations, or individual operators.
* Contact local universities.

RISK MANAGEMENT PRACTICES OF UNIVERSITY BASED ADVENTURE PROGRAMS

By

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ABSTRACT

The subject of risk management in adventure recreation activities is largely governed by opinions. Although research has been done to determine which opinions appear to hold up in court, no research had been done to find out what agencies are currently doing to manage risk. This paper provides insight into how agencies have incorporated risk management techniques into their programming. The paper also shows the effect agency demographics have on the techniques that are used. Finally, a number of questions are asked concerning inconsistencies that are exposed when data is compared.

INTRODUCTION

McAvoy, Dustin, Rankin, and Frankt (1985) paraphrased Roderick Nash by saying, "wilderness is the uncontrolled, the uncontrolled is unpredictable and therefore dangerous" (p. 42). For many years this perception governed legal decisions concerning accidents that happened in the wilderness. Court decisions reflected the attitude that people venturing into the wilderness took their lives in their own hands (Moss, 1992).

During the past decade however, courts' perceptions of wilderness and related adventure activities changed. This reflected the public's change in perception. The public's increased exposure to adventure recreation made activities, once considered extra ordinary, commonplace with no perceived risk. This challenged agencies providing adventure recreation to balance the public's demand for adventure recreation with their lack of understanding about the associated risks. This balance has come to be known as risk management.

When this concept originated in the insurance industry, the goal was to prepare for the unexpected and if something did happen, hold the negative financial impact to a minimum. Today, in the field of recreation, this concept is more participant oriented. McGregor and MacDonald (1989) said the primary goal of risk management is to protect the participant from injuries and the secondary goal is to reduce the possibility of lawsuits should an injury occur.

The importance of risk management to the field of adventure recreation is evident in its top organizations and associations. Organizations such as Outward Bound and the National Outdoor Leadership School created positions within their administrative structures to oversee safety and risk management concerns (Gookin, 1995). Likewise, the Association of Experiential Education instituted an agency accreditation process (Gass & Williamson, 1995). Finally, in 1992 professionals from across the country organized the Wilderness Risk Managers Committee in order "to share resources and establish a communication network" (Gookin, 1995, back cover). This committee now sponsors an annual conference.

During the past two decades many adventure professionals have seen the necessity of risk management and have tried to share this with others in the profession. Voluminous amounts of information about the subject have been distributed throughout the profession via journal articles and books. However, explanations of some risk management practices vary from author to author. Thus, understanding different recommendations and implementing all of this information can be a large task for an agency administrator and staff. In addition to the author's varying explanations, each agency administrator will add interpretation to what the authors have recommended. Because of this interpretation, Ewert (1984) stated that the subject of risk management is "questionable and worthy of investigation" (p.27). Ford and Blanchard (1993) also expressed concern when they said that because of the complexity of this issue, administrators may decide not to offer an activity, or worse, they may offer it without completing the risk management recommendations.

In an attempt to provide additional information to this growing area of interest, the focus of this research project was to determine the risk management practices of adventure recreation agencies in the setting of higher education. Professional literature has discussed the importance of risk management practices and provided information to help implement these practices. However, what is written in journals and books may or may not be taking place in actual agency practices.

PURPOSE AND PARAMETERS OF THE STUDY

This paper was not intended to be a how-to guide for managing risks in an adventure program. In this author's opinion, the field is well saturated with this information. The purpose of this paper was to provide a snapshot of the actual risk management plans currently used by university or college based adventure recreation agencies, and identify possible relationships between agency demographics and risk management techniques.

The information in this paper was gathered from the immediate administrators of adventure recreation agencies based in colleges and universities in the United States. Further, these agencies provided leadership, coordination, or structure to adventure activities. The author chose to use the "leadership, coordination, or structure" criteria because it described the agency's involvement in the activity and was open to very little misinterpretation. Although this study may be helpful to agencies that lie outside of these parameters, its data does not represent these agencies.

METHOD OF CONDUCTING THE STUDY

In reviewing the literature concerning risk management, it was discovered that there has been little research done. So, in many instances the author was breaking new ground including the development of the survey instrument and statistical analysis.

The names and addresses of the immediate administrators where gathered from the first addition of the Outdoor Recreation Resource Directory & Data/Resource Guide (Webb, 1991) and the 1997 Recreational Sports Directory (National Intramural-Recreational Sports Association, 1997). Between these two sources, a list of 652 agencies that claimed ownership of an adventure program was generated. The entire population was surveyed so that differences amongst programs of different, location, size, and administration could be detected.

As stated earlier, the author developed the survey. Numerous resources were used starting with a review of literature to determine the survey questions. The format of the questionnaire was modeled after Janosik and Anderson's (1989) "Alcohol Risk Management Survey." Finally, once the survey was completed, it was reviewed by the author's thesis committee at Southern Illinois University and a panel of experts from the field of risk management in adventure programming. This panel checked the survey content for clear and unambiguous terminology, usefulness of information, and overall reaction to the tool. Suggestions and critiques were used to refine the survey so that the population easily and appropriately interpreted it. When finalized, the survey contained 27 Likert Scale questions and 11 check lists that gathered information concerning agency policy and procedure. There were also nine questions that gathered demographic information.

The analysis of the data began by reporting the percentage scores for the Likert Scale questions, checklists, and demographic information. For the second phase of analysis, the Likert Scale questions were divided into four categories: Agency Guidance, Staff Development, Participant Education, and Written Documentation. These categories were considered the dependent variables while the demographic data were considered the independent variables. A MANOVA test was initially used in this analysis to objectively identify significant differences in the dependent variables when the comparisons were done amongst the responses to each independent variable. Once it was determined that there was no category interrelationship, ANOVA tests were used with the level of significance set at .05. In short, the analysis was looking for the effect that demographic information had on agencies' preferences in using the categories.

THE RESULTS

The results of the survey are detailed in this section. In the original survey, the questions were categorized according to whether the question dealt with policies or procedures. Here the questions are presented according to the categories mentioned above. This will allow for an easier explanation of the

reasons for grouping the questions and the effects of the demographic information. **The numbers at the end of the bar graphs represent percentages.**

PROGRAM DEMOPGRAPHICS

This section will illustrate the general makeup of the population that responded to the survey.

1. Institution funding:

Public	72.1%
Private	21.3%
No Response	6.6%

2. Our agency is housed within a(n):

Campus Recreation Services	45.6%
Student Union/Center	32.3%
Academic Department	13.2%
Other	5.9%
No Response	4.4%

3. Enrollment of our university/college:

Less than 10,000	51.5%
10,001 to 20,000	24.3%
20,001 to 30,000	11.8%
More than 30,001	8.8%
No Response	3.7%

4. Number of full time employees working in our adventure recreation agency:

Zero	19.9%
One	40.4%
Two	24.3%
Three or more	11.8%
No Response	3.7%

5. Number of part time employees working in our adventure recreation agency:

Zero to Five	43.4%
Six to 10	14.0%
11 to 15	11.8%
16 or more	26.5%
No Response	4.4%

6. Type of institution:

Community college	3.7%
College or university	91.9%
No Response	4.4%

7. Annual number of agency-participant contact days in the field: **Too Many Responses to Report!**

8. Region in which your institution is located:

Northeast	10.3%
Middle Atlantic	16.9%
Southeast	10.3%
Great Lakes	13.2%
South Central	8.1%
Northern Plain	5.1%
Rocky Mountains	16.2%
Pacific	14.0%
Missing	5.8%

The regions were broken down as follows:

Northeast: Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont

Middle Atlantic: Delaware, District of Columbia, Maryland, New Jersey, North Carolina, Pennsylvania, South Carolina, Virginia, and West Virginia

Southeast: Alabama, Florida, Georgia, Kentucky, Mississippi, and Tennessee

Great Lakes: Illinois, Indiana, Michigan, Ohio, and Wisconsin

South Central: Arkansas, Kansas, Louisiana, Missouri, Oklahoma, and Texas

Northern Plains: Iowa, Minnesota, Nebraska, North Dakota, and South Dakota
Rocky Mountains: Arizona, Colorado, Idaho, Montana, New Mexico, Utah, and Wyoming
Pacific: Alaska, California, Hawaii, Nevada, Oregon, and Washington

INITIAL QUESTION

The initial question of the survey was answered by all of the respondents. By responding yes, they met the criteria for the survey and were asked to complete the survey. If they responded no because they didn't meet the criteria, they were asked to return the survey with only the initial question answered.

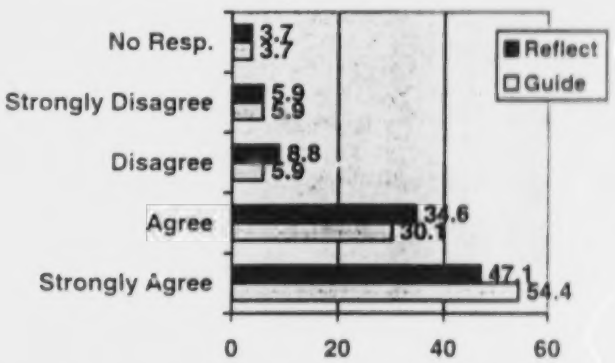
1. Does your agency provide leadership, coordination, or structure to adventure recreation activities?

Yes	63.6%
No	36.4%

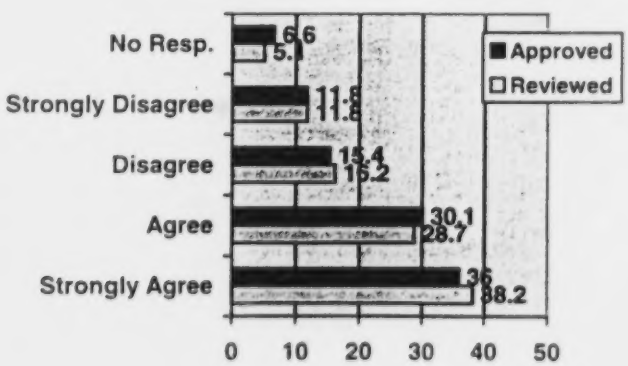
AGENCY GUIDANCE CATEGORY

The questions for this category were grouped together because they refer to the operation of the agency at the organizational level. Some questions are combined with others on the same graph to emphasize a comparison.

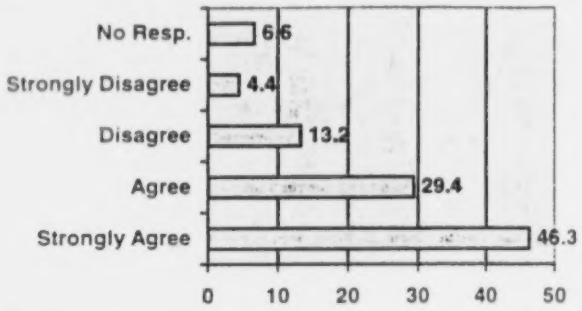
1. Our agency has risk management policies that help to guide its operation.
2. Our agency has risk management policies that reflect our agency's mission statement.



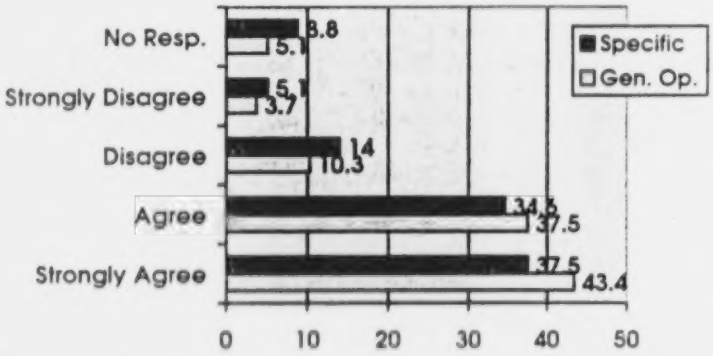
3. Our agency has risk management policies that have been *reviewed* by our institution's risk management department or legal council.
4. Our agency has risk management policies that have been *approved* by our institution's risk management department or legal council.



5. Our agency has risk management polices that have been updated since their development.



6. Our agency has risk management polices for its general operation.
7. Our agency has specific risk management policies for leading an activity or event.



Checklist for question 6 - These management policies include:

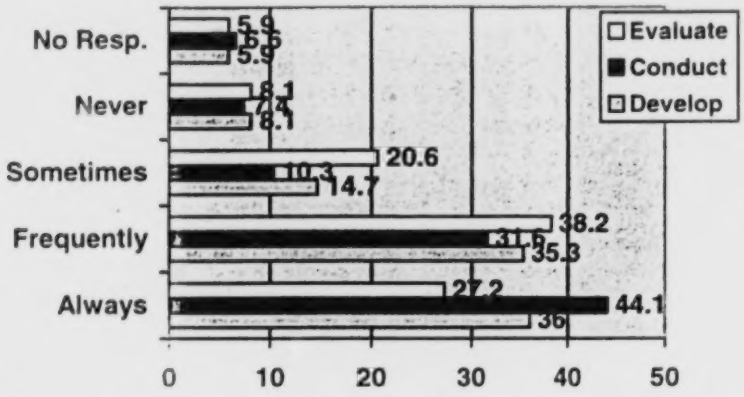
Personnel qualifications	Yes	80.1%	No	14.7%	No Resp.	5.1%
Participant requirements	Yes	72.8%	No	20.6%	No Resp.	6.6%
Emergency action plan	Yes	77.9%	No	18.4%	No Resp.	3.7%
Organizational structure	Yes	71.3%	No	22.8%	No Resp.	5.9%
Employee-participant interaction	Yes	65.4%	No	26.5%	No Resp.	8.1%
Activity specific operating procedure	Yes	74.3%	No	21.3%	No Resp.	4.4%
Program evaluation	Yes	71.3%	No	22.8%	No Resp.	4.4%
Employee evaluation	Yes	69.9%	No	23.5%	No Resp.	6.6%
Program design	Yes	66.9%	No	25%	No Resp.	8.1%
Vehicle usage	Yes	78.7%	No	16.9%	No Resp.	4.4%
Program equipment use by staff	Yes	71.3	No	22.1%	No Resp.	6.6%

Checklist for question 7 - These policies for leading an activity or event include:

Specific employee requirements	Yes	75.7%	No	18.4%	No Resp.	5.9%
Specific participant requirements	Yes	63.2%	No	30.9%	No Resp.	5.9%
Operating procedures for activity	Yes	71.3%	No	22.1%	No Resp.	6.6%
Equipment requirements	Yes	72.8%	No	20.6%	No Resp.	6.6%
Site selection	Yes	64.7%	No	25.7%	No Resp.	9.6%

8. Our agency uses a systematic process to include risk management procedures when *developing* an activity or event.
9. Our agency uses a systematic process to include risk management procedures when *conducting* an activity or event.

10. Our agency uses a systematic process to include risk management procedures when *evaluating* an activity or event.



When an analysis of the data was done to test for the effects of demographics on this category, the following was found.

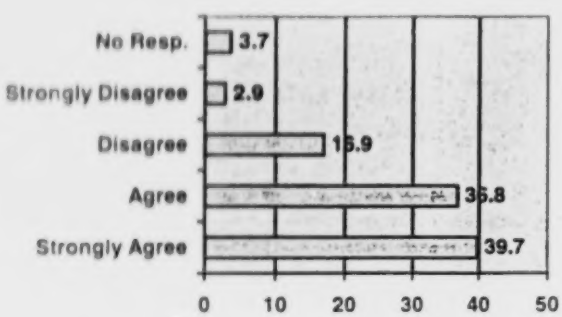
Institutional funding	None
Agency housing	None
Enrollment	None
Full time employees	None
Part time employees	None
Type of institution	None
Contact days	Yes, at .002 level of significance*
Geographic region	None

*A question has been raised with the type of test that was used in this instance. There may or may not be an actual effect here.

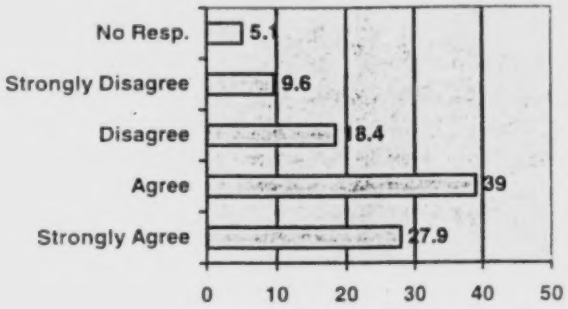
STAFF DEVELOPMENT

The questions for this category were grouped together because they refer to the development of employees that operate the adventure activities. Some questions are combined with others on the same graph to emphasize a comparison.

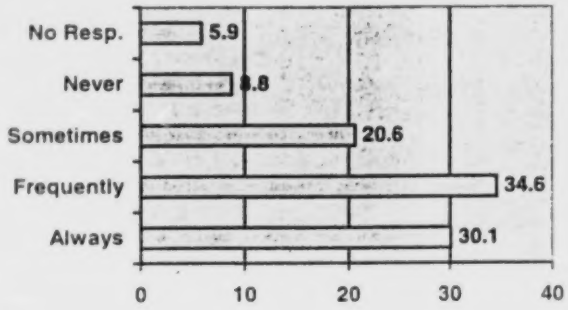
1. Our agency has risk management policies that define the agency's standard or care owed to the participants.



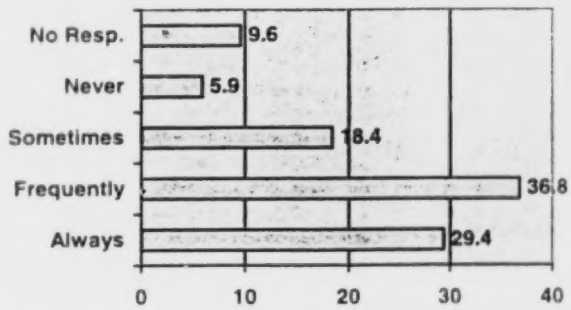
2. Our agency has risk management *policies* that are systematically distributed to agency staff.



3. Our risk management *procedures* are systematically distributed to agency staff.



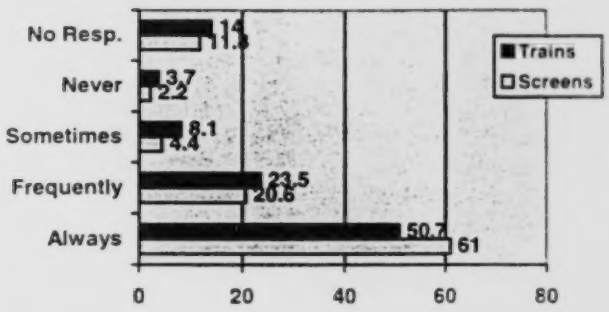
4. Our agency debriefs the staff after each activity.



Checklist for question 4 – A debrief includes:

Discussion of incident reports	Yes	71.3%	No	16.9%	No Resp.	11.8%
Evaluation of activity site	Yes	75%	No	14.7%	No Resp.	10.3%
Evaluation of equipment	Yes	75%	No	14.7%	No Resp.	10.3%
Self & peer evaluation	Yes	69.9%	No	19.9%	No Resp.	10.3%
General evaluation of activity	Yes	81.6%	No	9.6%	No Resp.	8.8%
Suggestions for the future	Yes	79.4%	No	11.8%	No Resp.	8.8%

5. Our agency screens staff members for their abilities and/or competencies.
6. Our agency provides training for staff members.



Checklist for question 5 – This screening process includes:

Interviews	Yes	83.8%	No	8.1%	No Resp.	8.1%
Reference checks	Yes	64%	No	23.5%	No Resp.	12.5%
Certifications	Yes	78.7%	No	13.2%	No Resp.	8.1%
Observation of skills	Yes	80.1%	No	12.5%	No Resp.	7.4%
Written test of knowledge	Yes	21.3%	No	62.5%	No Resp.	16.2%

Checklist for question 6 – Staff training includes:

CPR	Yes	68.4%	No	22.8%	No Resp.	8.8%
First aid	Yes	69.9%	No	21.3%	No Resp.	8.8%
Basic activity skills	Yes	78.7%	No	14.7%	No Resp.	6.6%
Advanced activity skills	Yes	55.9%	No	33.8%	No Resp.	10.3%
Equipment usage	Yes	79.4%	No	13.2%	No Resp.	7.4%
Equipment repair	Yes	57.4%	No	33.8%	No Resp.	8.8%
Group facilitation	Yes	72.1%	No	20.6%	No Resp.	7.4%
Search and rescue	Yes	28.7%	No	60.3%	No Resp.	11.0%

When an analysis of the data was done to test for the effects of demographics on this category, the following was found.

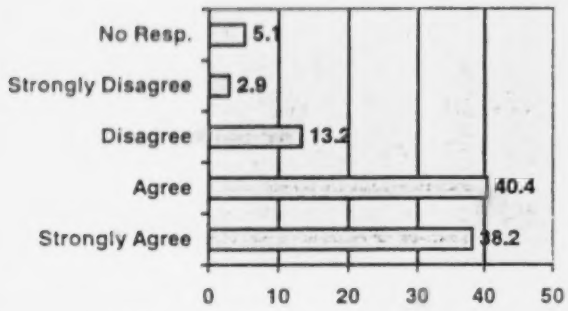
Institutional funding	None
Agency housing	None
Enrollment	None
Full time employees	None
Part time employees	None
Type of institution	Some, the level of significance was .198
Contact days	Yes, at .006 level of significance*
Geographic region	None

*A question has been raised with the type of test that was used in this instance. There may or may not be an actual effect here.

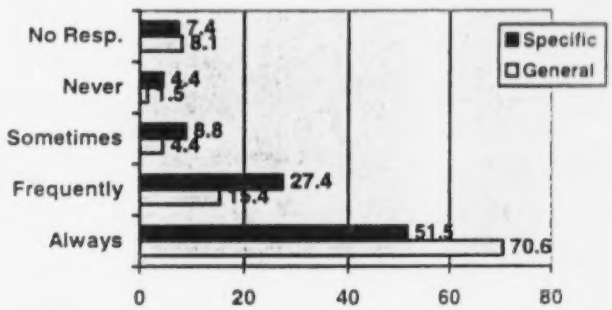
PARTICIPANT EDUCATION

The questions for this category were grouped together because they refer to agency's attempt to educate the participants about the risks associated with adventure activities. Again, some questions are combined with others on the same graph to emphasize a comparison.

1. Our agency has risk management policies that define the responsibilities of the agency's participants.



2. Our agency informs participants of the *general* risks associated with the adventure recreation prior to participation; e.g. possible injury, dismemberment, disability, or death.
3. Our agency informs participants of the *actual* risks associated with the specific adventure activity or event prior to participation; e.g. snake bites, falling rocks, and skin irritations from poisonous plants.



Checklist for question 2 – This information is provided through:

Pre-trip group meeting	Yes	83.1%	No	12.5%	No Resp.	4.4%
Pre-trip individual meeting	Yes	31.6%	No	52.2%	No Resp.	16.2%
Photographs or slides	Yes	25%	No	58.8%	No Resp.	16.2%
Printed documents	Yes	88.2%	No	8.8%	No Resp.	2.9%
Video	Yes	15.4%	No	65.4%	No Resp.	19.1%
Verbal explanation	Yes	84.6%	No	9.6%	No Resp.	5.9%

When an analysis of the data was done to test for the effects of demographics on this category, the following was found.

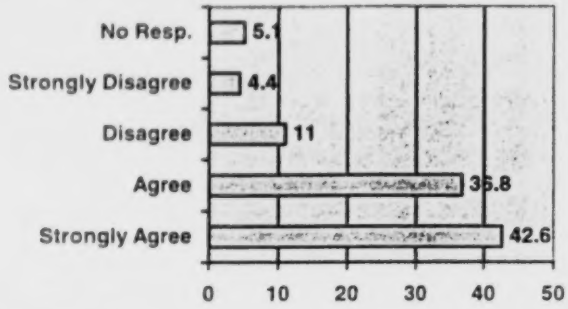
Institutional funding	None
Agency housing	None
Enrollment	None
Full time employees	None
Part time employees	None
Type of institution	Yes, the level of significance was .044
Contact days	Yes, at .013 level of significance*
Geographic region	None

*A question has been raised with the type of test that was used in this instance. There may or may not be an actual effect here.

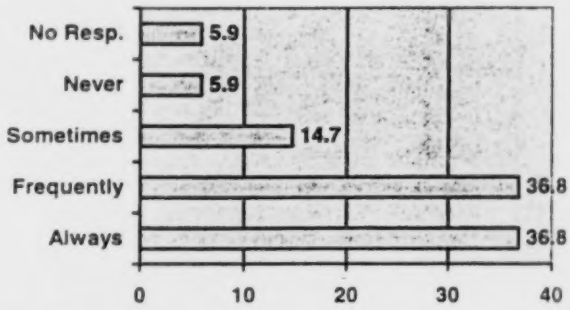
WRITTEN DOCUMENTATION

The questions for this category were grouped together because they refer to the agency's attempt to minimize risks by maintaining written records of agency operation. Again, some questions are combined with others on the same graph to emphasize a comparison.

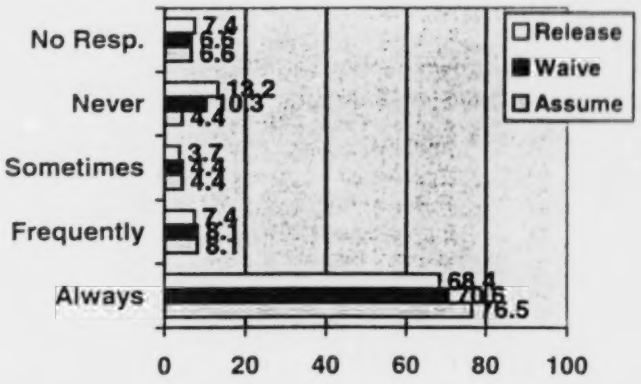
1. Our agency has risk management *policies* that exist in written form.



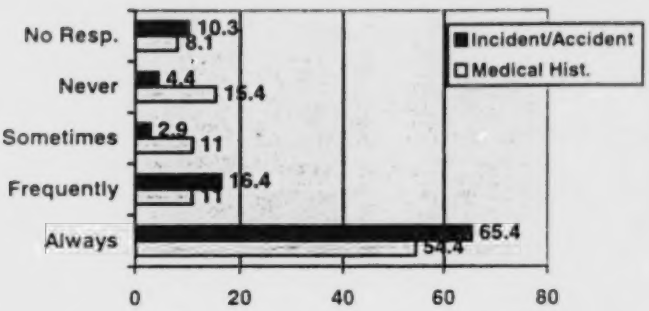
2. Our risk management *procedures* exist in written form.



3. Our agency uses documentation requiring the participant's signature to record his/her *acknowledgment of inherent risks* associated with participation (he/she understands the risks associated with the activity and agrees to accept them).
4. Our agency uses documentation requiring participant's signature to record his/her agreement to *waive the right to sue our agency* should he/she be injured during participation in an agency activity or event.
5. Our agency uses documentation requiring participant's signature to record his/her agreement to *release agency and staff from responsibility of wrong doing* should he/she be injured during an agency activity or event.



6. Our agency obtains a medical history form from participants for an activity that is off site or above the participant's average daily level of exertion.
7. Our agency uses incident/accident forms.



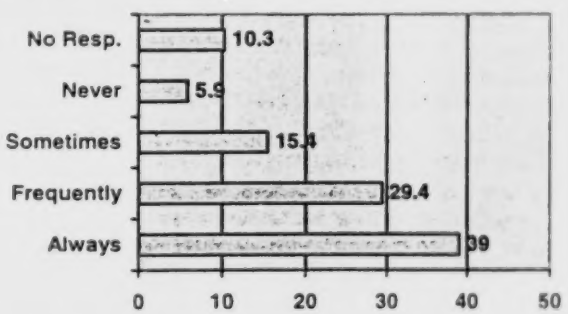
Checklist for question 6 – The medical history document includes:

Insurance carrier's name	Yes	57.4%	No	24.3%	No Resp.	18.4%
Emergency contacts	Yes	73.5%	No	9.6%	No Resp.	16.9%
Physical examinations	Yes	14%	No	64%	No Resp.	22.1%
Past medical history	Yes	60.3%	No	19.1%	No Resp.	20.6%
Current medications	Yes	71.3%	No	11%	No Resp.	17.6%
Emergency medical treatment authorization	Yes	48.5%	No	30.1%	No Resp.	21.3%

Checklist for question 7 – A debrief includes: **Unavailable**

Discussion of incident reports	Yes	-%	No	-%	No Resp.	-%
Evaluation of activity site	Yes	-%	No	-%	No Resp.	-%
Evaluation of equipment	Yes	-%	No	-%	No Resp.	-%
Self-evaluation and peer-evaluation	Yes	-%	No	-%	No Resp.	-%
General evaluation of activity or event	Yes	-%	No	-%	No Resp.	-%
Suggestion for future	Yes	-%	No	-%	No Resp.	-%

8. Our agency's equipment usage is documented.



Checklist for question 8 – The information that is documented includes:

Each use	Yes	58.8%	No	27.9%	No Resp.	13.2%
Repairs	Yes	60.3%	No	22.8%	No Resp.	16.9%
Damages	Yes	66.9%	No	17.6%	No Resp.	15.4%
Repairs	Yes	69.1%	No	17.6%	No Resp.	13.2%

Checklist for question 8 – Equipment that receives usage documentation:

General camping	Yes	52.2%	No	27.9%	No Resp.	19.9%
Climbing/mountaineering	Yes	59.6%	No	14%	No Resp.	26.5%
First aid kits	Yes	59.6%	No	19.9%	No Resp.	20.6%
Watercraft	Yes	39.7%	No	27.2%	No Resp.	33.1%

Skiing	Yes	27.2%	No	33.8%	No Resp. 39%

When an analysis of the data was done to test for the effects of demographics on this category, the following was found.

Institutional funding	Some, at .203 level of significance
Agency housing	None
Enrollment	None
Full time employees	None
Part time employees	None
Type of institution	None
Contact days	Yes, at .000 level of significance*
Geographic region	None

*A question has been raised with the type of test that was used in this instance. There may or may not be an actual effect here.

CONCLUSSION AND RECOMMENDATIONS

When one looks at the data that has been presented, the message is clear that the agencies that responded positively, either with a one or two, to the Likert Scale questions far out number those that responded negatively. Further still, the responses to the checklists were also positive. Since this instrument was designed using the literature and suggestions written by experts in the field of adventure risk management, this leads to the conclusion that agencies are in agreement with the experts' recommendations.

In reviewing the data concerning the demographic effects on the categories, some commonly held beliefs have been shown to have no credence. Agency housing, institutional enrollment, number of full time employees, number of part time employees, and geographic region were shown to have no effects on any of the categories. Thus, the use of techniques did not differ in these categories for private or public schools, agencies run by part time graduate students or seasoned professionals, those housed in student unions or recreation centers, or east coast agencies or west coast agencies.

The number of agency contact days appears to have an effect on each of the categories, but as mentioned before, a question has been raised with the type of test that was used in this comparison. Therefore, there may or may not be an actual effect with this data. The type of institution had some effect on development of agency staff and a definite effect on participant education. Finally, institutional funding had some effect on the use of written documentation.

In the Results section, the data was presented in such a way as to make some comparisons between questions evident. If the reader did not notice these comparisons, please review the past section and look for information such as:

- agencies that frequently or always use incident/accident reports outnumber those that use medical history forms by 16.9 percentage points
- agencies that always or frequently have systematic ways of including risk management into conducting an activity outnumber those that responded similarly to including risk management into evaluating an activity by 10.3 percentage points.

There are also many observations that can be made by comparing questions that have been put into different categories. When a positive response was referred to it meant an answer of one or two on the Likert Scale.

1. The existence of risk management policies *versus* having the policies reviewed and/or approved by the institution
   - 84.5% responded positively to the existence of risk management policies that guide agency operation
   - 66.9% responded positively to having the policies reviewed by the institution that would have to defend the agency in court and 66.1% responded positively to the institution approving the policies.
2. The existence of risk management policies *versus* the existence of policies in writing *versus* the systematic distribution of policies to staff.
   - 84.5% responded positively to the existence of risk management policies that guide agency operation

- 79.5% responded positively to the existence of policies in writing
- 66.9% responded positively to the existence of systematic ways of distributing the policies to staff

3. Risk management procedures exist in written form *versus* the systematic distribution of procedures to staff.
   - 73.6% responded positively to the existence of risk management procedures in written form.
   - 64.7% responded positively to a systematic way of distributing the procedures to staff.

4. Use of acknowledgement of risk *versus* a waiver *versus* a release *versus* an incident/accident form *versus* a health form
   - 84.6% responded positively to using an assumption of risk form
   - 78.7% responded positively to using a waiver
   - 75.8% responded positively to using a release
   - 82.3% responded positively to using an incident/accident form
   - 64.4% responded positively to using a medical history form

Hopefully, the author is not the only one that notices discrepancies in this data. Although the responses to the stated questions are still far more positive than negative, there appear to be holes that need attention. Such as, why do over 84% of the agencies say they have risk management policies but only a little over 66% say they have been approved by the institution that will have to defend the agency in court? Why do 84.5% of the agencies say they have risk management policies but only 66.9% say they have ways to get the information to the staff people that need it? Why is the medical history form the least used document when experts say it should be the first one used? If one were to pour over this data further, a dozen such questions could be asked. Any of which could be develop into a new research project. It is necessary to lace these individual pieces together into an integrated mode of operation rather than sheets of paper in a notebook sitting on the shelf.

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Ecotourism and International Park Protection?
The Potential for Educating Outdoor Recreation Participants

Michael G. Huffman, Ph.D. and James E. Fickle, Ph.D.
University of Memphis

Tourism and U.S. National Parks

The relationship between tourism and the protection of natural resources has always been tenuous. The long-standing tension between the values of park visitation and resource preservation has been especially striking in the United States. The experience of the U.S.A. in this area has stretched over the country's transition from a dominantly rural society with abundant natural areas to a highly-industrialized and urbanized nation where undeveloped lands are at a premium. The experiences, successes, and failures of the United States in wilderness and natural resource preservation and management may provide helpful models for other nations which are grappling with similar problems during various stages of their development.

As Roderick Nash and other scholars have pointed out, wilderness and natural resource protection are heavily influenced by a "scarcity theory of value." In other words, underdeveloped nations which have abundant natural areas tend to value them lowly and to regard industrialization, urbanization, and the trappings of "advanced" society more highly. On the other hand, as nations industrialize and urbanize, as they lose their natural and wilderness areas, they begin to lust after what they have lost. They then attempt to preserve what is left, or at least the illusion of what they have lost. In the United States this process began to emerge in the late nineteenth century, and was symbolized by the creation of the nation's, and the world's, first national park, Yellowstone, in 1872.

In the early period of the late nineteenth and early twentieth centuries, the battles over preservation of natural areas were intense, for the advocates of "development" who had a different set of values from "preservationists" were powerful and determined. The United States was a "practical" nation, and if lands were to be set aside as national parks, they either had to be "worthless" for other uses, or they had to demonstrate some sort of economic value in their state as parks or preserves. They needed a constituency, people and leaders who would argue for them in the political realm and help to defend them from other sorts of "development." The promotion of tourism in the parks seemed the perfect solution.

In the early years the parks were located exclusively in the trans-Mississippi West, and were situated in relatively isolated and formidable areas. Some were served and promoted by railroads, which were building lines across the West in this period. They attracted mostly a limited and monied clientele. Even such principled preservationists as John Muir, recognized their importance as park advocates. Said "John of the Mountains," in a rare moment of charity toward the casual tourist, "" the scenery habit in its most artificial forms, mixed with spectacles, silliness and kodaks, its devotees arrayed more gorgeously than scarlet tanagers, frightening the wild game with red umbrellas-- even this is encouraging and may well be regarded as a hopeful sign of the times." [1] It was also a sign of the times that the early American parks were set aside for man's pleasure and use, rather than for the protection of nature for its own intrinsic worth. As Roderick Nash has observed, the American model was "a very anthropocentrically defined national park ideal."[2]

Preservationists and National Park Service administrators avidly promoted tourism in the early period, and their efforts were eventually too successful. In fact, Alfred Runte points out that "there had never been any question that ever since Yosemite Valley had first been set aside, the most influential barometer of a manager's success was the number of visitors passing through the park....the historical gulf between preservation and recreation had begun forming from the outset, widening in practically every instance where protection of a resource might jeopardize the traditional sources of support.....people were the standard by which the government measured its success."[3] The major limiting factor was the difficulty involved in reaching the parks and wilderness areas. Before the era of paved highways and dependable automobiles, it took three days of difficult driving over dirt roads to travel from the San Francisco area to various Sierra Nevada trailheads. Easterners who came West by train found it nearly impossible to fit a

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[1] Quoted in Alfred Runte, National Parks: The American Experience (Second Edition. Revised. Lincoln and London: University of Nebraska Press, 1987), p. 172.

[2] Roderick Frazier Nash, The Rights of Nature: A History of Environmental Ethics (Madison: The University of Wisconsin Press, 1989), p. 35.

[3] Alfred Runte, Yosemite: The Embattled Wilderness (Lincoln and London: University of Nebraska Press, 1990), pp. 208-9.

national park or wilderness trip into a two-week vacation period.[4] Improved roads and automobiles changed the rules, and the parks would never be the same again.

Despite the concerns of some preservationists and the opposition of a few national park administrators, the automobile quickly invaded the once-tranquil scene. The Secretary of the Interior allowed cars into Mount Ranier in 1908, in 1910 in General Grant, in 1911 in Crater Lake, into Glacier in 1912, into Yosemite and Sequoia in 1913, in 1914 to Mesa Verde, and into Yellowstone in 1915.[5] Hordes of people and automobiles descended upon the parks immediately, and by the 1920s and 1930s, auto camping, popularly known as "sagebrushing" was all the rage. By 1919 nearly ninety-eight thousand cars were coming into the national parks annually. In Yosemite automobiles and campers invaded the open meadows and increasing numbers of animals became the victims of onrushing vehicles.[6]

The National Park Service rushed to provide more facilities for the visitors and their conveyances, and in the late 1920s and 1930s undertook the construction of major cross-park and scenic roadways. These included the Trail Ridge Road in Rocky Mountain, the Sylvan Pass road in Yellowstone, Going-to-the-Sun Highway in Glacier, the Wawona road and tunnel and the Tioga Road in Yosemite, and the Cape Royal road in Grand Canyon. Said National Park Service Director Horace N. Albright, construction of such roads "is meeting an obligation to the great mass of people who because of age, physical condition, or other reason would never have an opportunity to enjoy close at hand this marvelous mountain park."[7]

Visitation in some U.S. national parks dropped by more than a fourth during the Great Depression of the 1930s, but others continued to post gains, and there was a great surge overall, as visitation in the national parks and monuments grew from approximately three million in 1929 to more than twelve million just prior to World War II. There was an enormous jump in postwar travel, and several parks now had more than one million

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[4] Roderick Nash, Wilderness and the American Mind (Third Edition. New Haven and London: Yale University Press, 1982), p. 318.

[5] Richard A. Bartlett, Yellowstone: A Wilderness Besieged (Tucson: The University of Arizona Press, 1989), pp. 84, 86.

[6] Runte, National Parks, pp. 157-58; Runte, Yosemite, pp. 156-72.

[7] C.W. Buchholtz, Rocky Mountain National Park: A History (Boulder: Colorado Associated University Press, 1983), p. 176.

annual visitors, topped by nearly 2.7 million in Great Smoky Mountains. Between 98 and 99 percent of these visitors came by automobile.[8] As Alfred Runte has noted, "Even the most determined proponents of the automobile now faced the sobering realization that cars threatened the national parks as much as they insured their support."[9] Nonetheless, "National Park Service officials reveled in those numbers and local businesses reaped a harvest of tourist dollars."[10]

In the meantime, as preservationists began to fear that the increasing hordes of tourists were threatening to "love their parks to death," the roadways and asphalt continued to go down. In 1948 the Alaska Military Highway opened, making it possible for the automobile tourist to reach that fragile region by land, and in the mid-1950s the American Automobile Association sponsored a kick-off dinner in Washington, D.C. to help the National Park Service launch Mission 66. This ambitious ten year program would build roads, overnight accommodations, visitor centers, campgrounds, and other tourist facilities which could handle eighty million automobile visitors by 1966.[11]

Preservationists were outraged. In a 1967 report to the Conservation Foundation, F. Fraser Darling and Noel D. Eichorn sadly observed that "Mission 66 has done comparatively little for the plants and animals. The enormous increase in drive-in campsites is an example of the very expensive facilities which do nothing at all for the ecological maintenance of a park."[12] Ansel Adams thundered that "It is not so much what is wrong with Mission 66 as what is missing.. He noted that Mission 66 stressed the physical plants and planning for recreational use over "the basic problem of security of the national park ideal." Said Adams, "the term 'inspirational' is used with a glib obligation to impart some veneer of spiritual purpose."[13] The charge that the National Park Service and other United States national land management agencies were more interested in illusion

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[8] Runte, National Parks, pp. 170-71; Buchholtz, Rocky Mountain, p. 177.

[9] Runte, National Parks, p. 158.

[10] Buchholtz, Rocky Mountain, p. 177.

[11] Nash, Wilderness, p. 292; Runte, National Parks, p. 173.

[12] Quoted in Runte, National Parks, p. 173.

[13] Quoted in Runte, Yosemite, p. 193.

than reality was a constant theme. In analyzing a United States Forest Service manual regarding the development of different kinds of campsites, Joseph L. Sax observes that "The idea, of course, is that the Forest Service is providing a range of opportunities for everyone from the wilderness backpacker to the driver of a fully electrified recreation vehicle....this exhibit comes about as close as is possible to saying that people want illusions that provide the comfort of familiar services while suggesting that self-reliant adventure, and that the Forest Service is calculatingly giving them exactly that."[14]

By the 1980s the combination of government promotion of tourism in national land areas, the availability of good roads and automobiles, breakthroughs in equipment, and other factors had spawned an avalanche of "wilderness" visitors. As Roderick Nash observed, "air travel and fast roads make wilderness a realistic objective for millions even for a long weekend....It can be argued that the piece of technology with the most devastating effect on the American wilderness was the family automobile."[15] By the 1990s the National Parks and Conservation Association argued that "The most pressing challenge facing park planners is not what to do with the burgeoning numbers of park visitors, but what to do with their cars. Look for ways to keep a cap on the number of cars coming into your park."[16] The organization mourned that "On a busy weekend during peak season, gridlock can make some park entrances look like traffic jams. Instead of looking at a park's magnificent scenery, many visitors spend most of their time searching for a parking space. A recent study of Great Smoky Mountains National Park showed visitors spend seven times as much time inside their vehicles as outside of them-- and 16 percent of the park's visitors never even leave their cars. The answer is not necessarily to build more roads and bigger parking lots."[17]

Automobiles had become a major problem, but so had their occupants. Longs Peak in Rocky Mountain National Park illustrates the conundrum. In a sixteen day period during August of 1971, 2,388 people climbed or hiked to the summit of the mountain, an

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[14] Joseph L. Sax, Mountains Without Handrails: Reflections on the National Parks (Ann Arbor: The University of Michigan Press, 1980), p. 99.

[15] Nash, Wilderness, p. 318.

[16] Our Endangered Parks: What You Can do to Protect Our National Heritage (San Francisco: Foghorn Press, 1994), p. 112.

[17] Endangered Parks, p. 110.

average of about 150 people per day. Backcountry ranger Bob Siervbert reported that hikers on the Longs Peak Trail "express disappointment at the heavy use they encounter. They're sort of astonished there are so many people. Some are disgusted. Others are just surprised." Ranger Larry Van Slyke commented that "Twenty years ago rangers were doing more toward managing the environment. Today, we are people managers, managing people making an impact on the environment."[18]

By this time officials in United States public land areas had long been grappling with the problems of over-use and enormous visitation. As Americans had become more urbanized and prosperous, their growing affection for what they had left behind threatened to destroy what remained of their natural heritage. As they descended en masse upon the national parks, forests, and wilderness areas, they were now greeted by officials who imposed limitations on backcountry use, forced them to abandon their automobiles and use public transportation to enter some areas, and who attempted in various ways to educate them about responsible use and conduct in natural areas. Some of these techniques worked better than others. Some were more readily accepted by visitors than others. Collectively they provide a good textbook for public land managers in other nations who can learn and profit from our successes and, hopefully, avoid repetition of our failures.

It can safely be predicted that all nations that have natural areas will experience many of the same pressures, both from their own people and from outside visitors. As Roderick Nash has argued, the use of natural areas is highest among the urban and the affluent, and "If wild country no longer existed close to home, one could, given sufficient wealth and leisure, find it elsewhere."[19] Nations and regions that still have natural areas package them, through what Nash terms the "nature business." As Nash observes, "in actual fact money is the most important reason for preserving nature in most cultures....Less developed countries can afford to maintain wildness, while necessarily restraining development if the exportation of nature pays sufficient dividends."[20] .....The problem, of course, is that in catering to wilderness users, especially through the provision of "improvements" for their comfort or safety, the quality of the experience they have

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[18] Quoted in Buchholtz, Rocky Mountain, pp. 219, 221.

[19] Nash, Wilderness, p. 347.

[20] Nash, Wilderness, p. 344.

sought in the first place is compromised. The experience of the United States is a classic example of this pattern.

Tourism and National Parks Outside the U.S.

It was not long before other countries began to follow the methods of establishing national parks pioneered by the United States. Banff National Park, Canada's first, was established in 1885 with grand hotels and access provided by the Canadian Pacific Railroad.[21] The Canadian National Park system has grown to 37 national parks and reserves containing over 85,000 square miles. Similarly, Mexico began establishing national parks in the late 1800's and today has 44 national parks encompassing some of the most diverse natural environments on earth.[22] Today, national parks are found in countries on every continent and tourism continues to be promoted as a means of providing protection for natural areas and wildlife. According to the World Tourism Organization, "tourism can help the environment in many ways, especially by providing economic incentives to protect resources that have little other financial value, such as unique animal species, natural areas and cultural monuments."[23] In Africa, tourism has long been viewed as a means of preserving wildlife species. Mark Evans, a bush guide and former Zambian National Park Ranger stated that "Tourism discourages poaching. Rhinos feel safer near the camps and lodges where poachers don't dare go."[24] With all of the proponents of tourism and natural resource preservation, are there any disadvantages?

Trouble in Paradise

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[21] Dunbar, David. (1995). Canada's National Parks. Washington, DC: National Geographic Society.

[22] National Geographic Society. (1995). National Parks of North America. Washington, DC: National Geographic Society.

[23] World Tourism Organization. (1995). Press Release: Travel Groups Join Forces to Protect the Environment. London, UK. September 5, 1995.

[24] Theroux, Paul. (1997). "Down the Zambezi". National Geographic. Vol. 192(4). p. 25.

Parks in the United States

One does not have to travel very far nor to many different park and natural areas to

techniques in many areas has contributed to vast outbreaks of giardiasis in many wilderness areas due to improper disposal of human waste.[29]

While hunting is allowed on only a fraction of U.S. national park system sites, impacts on wildlife do occur throughout the system. The "major impact is caused by recreationists who unknowingly and innocently produce stressful situations for wildlife. Photographers and bird watchers who seek out nesting areas of secluded species, backcountry campers who camp within critical watering and feeding habitats of large mammals, and off-road vehicle users who seek a closer look are but a few examples of unintentional forms of wildlife harassment."[30] As another example, every year, park managers spend tremendous amounts of effort and money trying to prevent human - bear encounters at parks such as Yellowstone, Katmai , Glacier and Yosemite. Their efforts are exacerbated due to poor food storage and backcountry techniques practiced by visitors every year. This results in numerous bears having to be relocated and/or destroyed if they become habituated with visitor activity areas as a source of food.

Within recent years, even prehistoric sites which have stood unchanged for hundreds of years are being threatened by indiscriminate use. While prehistoric sites do continue to face problems with looting and vandalism, according to the National Park Service, the single largest problem facing cultural resource managers is unintentional damage caused by visitors. Many parks have resorted to prohibiting visitor entry to sites unless they are accompanied by guides. In addition, some popular sites such as those at Chaco Canyon have required the installation of steel braces to support crumbling walls.[31]

Parks Outside the United States

Parks outside the United States are not faring much better. Many countries are aggressively promoting tourism as a means of obtaining badly needed foreign currency. Economic studies revealed that Kenya's elephant population alone was worth $600,000 per

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[29] Hammitt, William E. and Cole, David N. (1987). Wildland Recreation Ecology and Management. New York: John Wiley and Sons.

[30] Ibid. p. 81.

[31] Satchell, Michael. (1997).

year in tourist income.[32] With figures such as these, many countries have been unwilling to consider concepts such as carrying capacity or sustainable tourism. Trekking in Nepal has exploded in recent years increasing by 255 percent from 1980 to 1991. Over 200 lodges were established almost "overnight". Most are heated with fuelwood and as a consequence, tourists use 75% more fuelwood than do native Nepalese resulting in the deforestation of large areas of countryside in popular trekking locations.[33] Long recognized for its biological isolation and now a popular ecotourist attraction, managers at the Galapagos Islands off the cost of Ecuador established a carrying capacity of 25,000 visitors per year as a means of protecting the flora and fauna. In actuality, 50,000 visitors is a more accurate annual visitation number.[34]

Perhaps no other area on Earth is as well known for its wildlife attractions as are many of the large national parks in Africa such as Amboseli in Kenya. As a means to increase access to wildlife and improve services for tourists, World Bank funds were used to build roads in the park. However, no maintenance of roads nor any controls on the development of new tracts were implemented. Today, the park receives over 200,000 visitors a year and this rate is growing by 25 percent per year. With such unrestricted growth, the four wheel drive passenger trucks used for viewing wildlife have eliminated large areas of ground vegetation thus creating immense dust pans. It is not unusual for dust storms to impede visibility on a regular basis. The impacts to wildlife have also been dramatic. Roads penetrate everywhere leaving no refuge for large animals. Studies have shown that Cheetah hunting success rates can drop by 75% when tourists are in the vicinity. In addition, some studies also suggest that breeding behavior is affected. Perhaps most dramatic is the prediction that with the current increases in visitation rates to the park, there will be 100 vehicles around every lion by the end of the next decade.[35] Clearly, some action to reduce this unrestricted growth is necessary, otherwise tourist activity may eliminate the very reasons for tourists to visit the country.

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[32] National Audubon Society. (1991). The Environmental Tourist: An Ecotourism Revolution. Video.

[33] Whelan, Tenise. (1991). Nature Tourism Managing for the Environment. Washington, DC.: Island Press.

[34] National Audubon Society. (1991).

[35] National Audubon Society. (1991).

While many people think of the natural resource impacts associated with tourism, fewer consider the impacts to indigenous people and their culture. Without proper planning and consideration on the part of individual tourists, loss and/or commercialization of many cultures is a very real possibility. In many cases in the past, the quality of arts and crafts diminish with efforts to increase the quantity of products for sale to tourists. In addition, dances, celebrations and ceremonies can be altered in an attempt to meet the attention spans and demands of tourists.[36]

Tourism frequently promises great income for developing countries but often provides only low paying service positions for indigenous people. In some cases operators try to lock out local tourism businesses altogether. In Belize, 50 percent of the tourists visit for the scuba diving on the world's second largest coral reef. In recent years, commercial ships bringing as many as 350 divers to the reef at one time provide all the visitors' needs and amenities aboard ship and contribute little to the local economy. To make matters worse, many of the dive masters on board were not teaching nor even practicing the techniques needed to protect the reef from damage caused by scuba diving.[37]

With so many potential impacts from tourism, one might wonder why countries would continue to promote it so aggressively? One study rates tourism as the second largest industry in the world comprising seven percent of world trade in goods and services.[38] The economic incentives of tourism are powerful and influential. However, impact to the environment and indigenous people do not necessarily have to follow implementation of tourist related services. Within recent years, the concept of "ecotourism" has gained increasing popularity. Many definitions of the term exist but most include a stated awareness for the natural environment and support for the tenets of conservation. Wood defines ecotourism as "the purposeful travel to natural areas to understand the cultural and natural history of the environment, taking care not to alter the integrity of the ecosystem while producing economic opportunities that make the conservation of natural resources

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[36] Whelan, Tenise. (1991).

[37] National Audubon Society. (1991).

[38] World Tourism Organization. (1995). Policy and Activities for Tourism and the Environment. Madrid. WTO.

financially beneficial to local citizens.[39] While many tourism related businesses claim to be ecotourism organizations, simply because they visit natural environmental locations, many do not subscribe to the basic philosophy of ecotourism. Travelers and managers of ecotourism destinations can do much to promote sustainable, environmentally viable tourism that supports local, indigenous people.

Evaluating Ecotour Operators

One of the most effective methods of ensuring sustainable ecotourism in specific environments is to evaluate potential travel providers with regard to their utilization of ecotourism practices. McLaren offers the following recommendations.[40] First, travelers should understand and support the reasons for ecotourism. Do they really want to travel in less luxury to outback places using less comforts? Ecotourism is not for everyone.

Second, run a background check on tour operators. Ask the following questions: What do they advertise? Is it congruent with the basic philosophy of ecotourism? How do the operators rate with local conservation groups? Do operators provide travelers with education? What is the staff-to-traveler ratio? Is it adequate to minimize the group's impact on the local environment? What are the qualifications of the leaders and staff?

Third, determine whether or not the operators support sustainable development and conservation by asking the following questions: Do they promote preservation of natural values among local people? Are local people employed? Do they incorporate low impact natural resource use? Are some profits invested locally? Does the company encourage ethical spending?

Finally, does the company encourage tourist activism after the trip is over? This is perhaps one of the least utilized resources for managers working to protect natural environments. Many tourists are ready to become activists after the trip is over. Does the operator provide past clients with information on current issues? Do they publish a newsletter. Tourists unwilling to return to locations and spend money unless local areas are protected are potentially powerful allies to conservation organizations and park

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[39] Wood, Megan E. (1991). "Global Solutions: An Ecotourism Society." In Whelan, Tenise (Ed.) Nature Tourism Managing for the Environment. p. 201. Washington, DC.: Island Press.

[40] McLauren, Deborah. (1997). Evaluating Ecotourism Operators and Agents. World Wide Web Location, http://www.txinfinet.com/mader/planeta/1196/1196agents.html.

managers eager to protect natural resources.

Educating Tourists and Recreationists

Information as a management tool to reduce visitor related impacts in park and recreation areas has been practiced in the United States for decades. Many park interpretive efforts are directed toward informing visitors about ways in which they can minimize their impact on the natural environment. Using information as a management tool has the advantage of low cost to both managers and to visitors. In addition, visitors frequently expend large amounts of energy seeking information about their destinations.[41] However, park interpretive efforts have not traditionally been directed to the needs of large tour groups, thus leaving information dissemination to commercial guides.[42] Information dissemination techniques that have proven effective in many interpretive settings might have potential for commercial operations as well.[43] When planning information strategies, providers should consider using quality personal interpretation whenever possible. Nothing can substitute as well for the question/answer interactions provided by well trained guides.

Second, combine information about minimum impact rules and regulations with information that participants state they desire. In the past, a very good pairing for this combination has been orientation information (i.e. directions to attractions, facilities, hours of operation etc.).

Finally, consider using more than one medium to communicate your message. Possibilities include brochures provided both prior to the trip and on site, lectures and demonstrations, videos, exhibits, and computerized web sites on the internet. Figure 2 provides an example of information provided on the National Park Service web site on

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[41] Cole, David; Petersen, Margaret; & Lucas, Robert. Managing Wilderness Recreation Use: Common Problems and Potential Solutions. General Technical Report INT-230, Ogden, UT: USDA Forest Service.

[42] Roggenbuck, Joseph W. and Williams, Daniel R. (1991). "Commercial Tour Guides Effectiveness as Nature Educators." In A. J. Veal, Paul Jonson and Grant Cushman (Eds.), Leisure and Tourism: Social and Environmental Change. World Leisure and Recreation Association Congress, Sydney, Australia, July 16-19, 1991. pp. 651-655.

[43] Sharpe, Grant W. (1992). Interpreting the Environment. New York: John Wiley & Sons.

cultural site etiquette. Used properly, information can be a powerful management tool for mitigating impacts associated with tourism and recreational use.

Resource Protection Techniques

Park and recreation areas in the United States have been subjected to visitor impacts at unprecedented rates. Examples of such impacts include loss of ground vegetation, erosion, proliferation of campsites, improper disposal of garbage and waste, disruption of wildlife habitats, water pollution, air pollution, and visitor conflicts just to name a few. It is now apparent that many international parks are beginning to see similar problems. While an examination of potential solutions for all of these problems is beyond the scope of this paper, one trend in the United States has potential for many areas around the world. Developed in the mid 1980's by the USDA Forest Service, the concept of Limits of Acceptable Change has been adapted for use by a variety of agencies.[41] The technique is designed to identify key resource indicators of change and then examine potential management strategies for reducing or eliminating impacts. This topic is closely tied to the theoretical concept of carrying capacity so popular in the past, but because it identifies upper limits of impacts (i.e. no more than a 50 percent loss of ground vegetation will be tolerated) it is proving to be easier to implement in real world situations. Many popular national parks in the United States are beginning to utilize similar strategies for establishing limits on visitation to environmentally sensitive areas. Figure 3 identifies the basic steps involved in utilizing the Limits of Acceptable Change management strategy.

Summary

As travel and tourism continue to increase in popularity, there is little reason to believe that ecotourism destinations will not continue to become more popular as well. The challenge for the future will be to provide sustainable tourism or tourism that does not destroy the resources that attract the tourists in the first place. For this to happen several things must occur. First, educational efforts must improve and become more sophisticated. Tourists should understand the consequences of their behavior to both the

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[41] Stankey, George H.; Cole, David N.; Lucas, Robert C.; Petersen, Margaret, E.; & Frissell, Sidney S. (1985). The Limits of Acceptable Change (LAC) System for Wilderness Planning. General Technical Report INT-176, Ogden, UT: USDA Forest Service.

natural environment and to the cultures of the indigenous people of the locations they visit. Second, tourists should be recruited as allies and activists for the preservation of the special environments that they visit. They are a potentially powerful, but under-utilized resource. Third, managers of park and natural areas must implement monitoring programs to gauge the "environmental health" of their areas and then have the courage to act with interventions when deteriorating conditions demand it. Faced with the tremendous money that tourism generates, this may be the most difficult task to accomplish. Finally, because tourism can generate so much income, strategies must be developed to put some of that money back into conservation efforts so that the industry can be sustained for future generations.

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Figure 2. Cultural Site Etiquette.

- **Consider viewing site from a distance.**
- **Avoid walking on middens.**
- **If trail exists, stay on it.**
- **Do not remove artifacts.**
- **Do not camp in or near cultural sites.**
- **Avoid touching walls.**
- **Enjoy rock art by viewing, sketching and photographing it.**
- **Do not climb on roofs and walls of sites.**

Figure 3. Steps for Implementing the Limits of Acceptable Change (LAC).

1. **Identify area concerns and issues**
2. **Select indicators of resource and social conditions**
3. **Inventory resource and social conditions**
4. **Specify standards for resource and social indicators**
5. **Identify management options and actions**
6. **Evaluate management options and monitor resource and social conditions**

Training and Development: Motivating Excellence!

By

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ABSTRACT:

The challenge of providing new opportunities and interests for the development and growth of staff is challenging in any organization. Compound those challenges with the added challenges of an ever changing and ever leaving staff in a university or seasonal employment environment is difficult. This presentation will present principles and provide examples of how implementation of those principles can answer some of training and development challenges.

Introduction

"You can dream, create, design,
and build the most wonderful
place in the world, but it
requires **people** to make
the dream a reality"
–Walt Disney

The life of every business and program are the people. They come to you excited to learn, to grow, and to contribute to your projects. They want to receive information that will help them understand the vision you have and receive the tools that will enable them to promote the programs goals. They want to know how they fit in.

You and your staff are busy with 'sailing the ship'. You don't have time and the staff doesn't want to be bothered with training new staff members. So the new staff member has to 'jump in' and do the best they can and hope they, you, peers, and those they serve, survive and receive good product and service or...

You identify the training and training processes that efficiently and smoothly guides the training and development of the new staff. Besides the basic training, the training gives a breadth and depth of further training opportunities that self stimulates staff into continuous development and training.

Principles

1. Share the vision with others, be a guide, not a God.

2. Share authority with responsibility, followed by accountability and consequence.

3. Where there is consequence, there are standards, where there is no consequence, there are no standards.

4. What I hear, I forget. What I see, I might remember. What I do, I know.

5. Challenge with opportunity stimulates progression.
(Challenge is the core and mainspring of all human activity. If there is an ocean, we cross it. If there is a disease, we cure it. If there is a wrong, we right it. If there is a record we break it. And finally, if there is a mountain, we climb.
–James Ramsey Ullman, Chronicler of the
1963 American Ascent of Mount Everest)

Identify Goals with Progress Sheet

Reviewing the section titled 'OUTDOORS UNLIMITED TRAINING, TOOLS, AND PROCEDURES' gives an overview of the training and development process. The INTERN/EMPLOYEE TRAINING RECORD' identifies and documents the employment process, department training, shift training, video training, and a training review. The other side of this 'training record' is the training record for specific areas, i.e. rental technician, bike mechanic, ski technician, rock climbing technician, and kayak technician. This page also identifies specific criteria for levels of competency, i.e. apprentice, journeyman, and master craftsman with benefits associated with specific areas and levels of skill and knowledge. New employees are given this 'training record' and are asked to complete the 'basic training' identified on the front. New employees/interns are also invited to consider what specific areas of training, levels, and benefits they would have interest in. Explanation as to how to accomplish and reach the levels of training are given and the new employee/intern is encouraged to learn, develop, and serve as much as they can. A 'BYU OUTDOORS UNLIMITED OPERATIONAL GUIDELINES' handbook and a 'ERNEST L. WILKINSON STUDENT CENTER STUDENT DEPARTMENT EMPLOYEE HANDBOOK' is given to new employees/ interns. By giving the new employee/intern handbooks that answer many of the operational and organizational questions and identify standard operating procedures new employees/interns are able to meld quickly with the seasoned staff. By giving the new employee/intern the 'training record', they can see the path, process, or route they need to follow to become basic trained, and options for future training and benefits. Being given direction, options, and control to choose how fast to develop and grow, and after completing basic training, control to choose which areas they would like to train and develop in, give the employee/intern freedom to choose and provides a direct benefit, or positive consequence that results from choosing further training and development. The freedom allows employees/interns to progress at their individually chosen rate, provides for standards of training and performance, and stimulates continued training by recognition and rewards.

Training Process

The training process uses the progress sheet to guide and document training. Seasoned employees train new employees/interns in small groups or individually. Fifteen to twenty videos with worksheets train and inform new employees. Written quizs/tests and performance demonstrations by the new employee give opportunity for seasoned training employees to verify that the new employee/intern has the skill and knowledge to maintain performance standards If the new employee/intern doesn't have the skill and knowledge, the trainer can recognize the area that needs further training and provide opportunities for their development.

Quality Check and Continued Training

Periodic performance evaluations by student supervisors verify abilities of employees/interns. A 'Skilled Contract' identifies 15-20 competencies/skills. This 'Skilled Contract' is given to a employee/intern at the time of their employment. It is explained that completion of the 'Skilled Contract' will take at least 8 months and that its completion will indicate that they are a 'seasoned' employee/intern. The benefits associated with completion of the Skilled Contract is a increase of their hourly wage. The full time manager has a personal progress interview with all employees/interns three times a year w hen benefits/perks are reissued (in the form of a authorization card) from the full time manager and a non-threatening visit is accomplished. The purpose of the visit is to stimulate open two way communication between the full time manager and the employee/intern.

Recognition and Reward

Employees/interns are individually congratulated and rewarded by the full time manager when they complete their basic training or complete an area of specialized skill or improved competency. Developing employees are recognized by their peers during the regularly scheduled staff meetings. All employee/interns have pictures (2" x 3") of them hung in a picture frame prominently located . Under each picture are their name and their skill levels, i.e. John Student, Basic Trained, Journeyman Rental Technician, Apprentice Bike Mechanic, Master Craftsman Ski Technician. These ways to recognize continued development build pride and stimulate development. Opportunities of further development and greater stewardship are offered those who progress. Salary increases are offered those who progress.

To receive a computer disc containing all training forms and manuals, please contact David J Webb by telephone at 801-378-2166 or e-mail: david_webb@byu.edu

OUTDOORS UNLIMITED TRAINING TOOLS AND PROCEDURES

I. .Identify Goals with Progress Sheet

II. Training Process

A. Video
B. Training Book
C. Review the sheets then Trainer Quality Control and Personal Coaching
D. Comprehension Quiz
E. Performance Demonstration of Concepts

III. Quality Check and Continued Training

A. Performance Evaluations by Student Managers
B. Personal Interviews with Managers

IV. Recognition and Reward

A. Titles given for performance
B. Rewards given for performance
    1. Privileges
    2. Opportunities
    3. Salary increases

TRAINING AND DEVELOPMENT SYSTEM

AT OUTDOORS UNLIMITED

I. EMPLOYEE SELECTION PROCESS

A. 1 month before need
B. Post position in the university employment office
C. BYU Outdoors Unlimited Student Managers(part time students) interview
    Best 3-5 potential employees are selected for interview by the full time manager
D. Manager interviews and contacts references of potential employees
E. Manager and Student Managers make a joint decision regarding who is hired
F. A Student Manager calls all applicants and communicate decision with the selected applicant who is directed to see the full time Manager.

II. TRAINING BEGINS

A. Applicants employment card is signed by the full time Manager and..
B. Applicant receives training sheet with brief explanation
C. Applicant is directed to the student union Business Office and university Employment Office to complete employment forms.
D. Novice Employee begins training with Outdoors Unlimited Training Specialist
E. Upon completion of novice training, employee is scheduled for regular working hours.
F. Upon completion of basic training, employees receives Outdoors Unlimited Staffpass privileges per training completed.

III. SPECIALIZED EMPLOYMENT EXPERIENCE OPPORTUNITIES

After completing the basic training necessary to qualify as a Rental Technician, specialized training in the areas of Bike Mechanic, Ski Mechanic, Trip Leader, Rental Technician ,etc. is encouraged and competency levels of Apprentice, Journeyman, Master Craftsman, and Student Manager are recognized.

A. Levels of Experience
   1. Trainee
   2. Apprentice
   3. Journeyman
   4. MasterCraftsman
   5. Student Manager

B. Level Placement Determined by Three Methods
   1. Passing a practical and written examination
   2. Following training procedures
   3. Achieving and maintaining specific performance levels

C. Training Procedures
   1. Watch information videos or instructor trainer demonstrations pertaining to the subject and level and complete appropriate review sheets.
   2. Read information packets pertaining to subject and level and complete appropriate review sheets.
   3. Skill instruction by trainer of subject
   4. Trainee demonstrates and practices
   5. Practical and possible written exam
   6. Performance goals identified, achieved and maintained

D. Recognition of Achievement
   1. Competency designated and upgrade as needed on picture and name display
   2. Certificate of achievement to be given at staff meetings

E. Influence on Employment
   1. Raises given based on effort shown

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E. Influence on Employment
   1. Raises given based on effort shown

2. Promotion according to skill achieved
3. Choice of work hours determined by experience level
4. Work privileges and benefits

IV. REVIEW OF BASIC TRAINING AND SPECIALIZED TRAINING

A. Monthly 5-15 minute Performance Evaluations are conducted by 8 student manager/specialists with all full and part time employees.
   1. Areas of evaluation include:
      a. Review of basics
      b. Ski rentals/repair
      c. Bike rental/ repair/ sales
      d. Programs/adventure outings
      e. Shifts
      f. Timecards and telephones
      g. Rental forms
      h. Advertising
      i. Rentals
   2. Evaluation format includes:
      a. Review of basics
      b. Scrutinizing of current problems
      c. Two-way communication
      d. Setting of performance goals for the next month including specialized training
      e. Report completion for full time manager.

B. Monthly performance Evaluations
   1. Are completed by student managers/specialists
   2. Collated and recorded by Secretary
   3. Forwarded to Manager

C. Problems are worked on one-on-one with the full time Manager

D. Accomplishments are announced in Staff Meetings and praise/reward is given.

IV. SEASONED EMPLOYEE/SKILLED CONTRACT

Completion of criteria set by the department and BYU Outdoors Unlimited that identifies and documents an employees high level of continuous skill and compliance to employment standards for a period of 8 months or more.

Completion of a 'Skilled Contract' results in an increase of pay

IV. SPECIAL COMMENDATION WARNING REPORTS

A. Immediate reward/correction communication
   1. 1st - communicate,
   2. 2nd - warn/probation,
   3. 3rd - terminate

B. Clarify at interview with the full time Manager

V. WEEKLY ACCOUNTABILITY AND COORDINATION MEETINGS

A. Once a week - Tuesday, 10:00 a.m. - 11:00 a.m.

B. Those who participate:

1. Student Managers
2. Specialists

VI. MONTHLY STAFF MEETINGS

A. Student Managers, full time manager, and Specialists meet with staff and

1. Inform
2. Train
3. Discuss
4. Decide
5. Clarify
6. Confirm

VII. SEMESTER STEWARDSHIP INTERVIEWS WITH FULL TIME MANAGER

A. Two-way communication

B. Opportunity to set goals

C. Every employee and on-call guides for the past and future season

10/97

INTERN/EMPLOYEE TRAINING RECORD

NAME:_____
LOCAL ADDRESS:_____
HOME ADDRESS:_____
HOME PHONE(___) ___-____LOCAL PHONE:(___) ___-____SS#:___-___-____
MAJOR:_____EXPECTED GRADUATION DATE:_____

_____INTERVIEW WITH MANAGER
_____INTERN/HIRE DATE
_____EMPLOYMENT PAPERS TO ASB
_____ELWC EMPLOYMENT AND TRAINING PROCESS: SEE PERSONNEL SECRETARY IN 327 ELWC; BRING SOCIAL SECURITY CARD & DRIVERS LICENSE

SLD DEPARTMENT TRAINING-104 ELWC

___:___/___/___HAZCOM TRAINED ___:___/___/___CASH HANDLING
___:___/___/___PHONE TRAINED ___:___/___/___CUSTOMER SERVICE
___:___/___/___NEW EMPLOYEE ORIENTATION

OUTDOORS UNLIMITED SHIFT TRAINING

_____UNIFORM FROM MGR.
_____BASIC RENTAL PRICES
_____FAMILIAR WITH SHOP
_____SCHEDULE TRAINED
_____REGISTER TRAINED
_____VISA TRAINED
_____PHONED TRAINED
_____FORM TRAINED
_____ADVENTURE PROGRAM
_____OPEN TRAINED
_____CLOSED TRAINED
_____PICTURE TAKEN
_____NAME TAGS SEWN ON

BACK-UP SHIFTS_____1st _____2nd _____3rd

OUTDOORS UNLIMITED VIDEO TRAINING

1)_____TAPE #1 (FIRST 10 MIN.)
2)_____ARA TRAINING TAPE
3)_____7-11 THEFT PREVENTION
4)_____GOOD SELLING TECH
5)_____SHOPLIFTING AND SECURITY
6)_____PRO-ADVANTAGE RAFT TAPE
7)_____COLORADO BOATING
8)_____EUREKA TENTS
9)_____COLEMAN CANOES
10)_____COLEMAN HCL (FULL TAPE)
11)_____SELLING DOWNHILL SKI
12)_____COLEMAN RAM-XBOATS
13)_____COLEMAN CAMPING
14)_____NATIONAL LIVERY SAFETY SYS #1
15)_____NATIONAL LIVERY SAFETY SYS #2
16)_____SOFT PATHS
17)_____WINNING WITH TOWABLE SAFETY

OUTDOORS UNLIMITED TRAINING REVIEW

_____STUDENT LEADERSHIP DEVELOPMENT HANDBOOK REVIEW
_____OUTDOORS UNLIMITED OPERATIONAL GUIDELINES REVIEW
_____CASH HANDLING REVIEW-BOB
_____MEMO TO MANAGER FROM STUDENT TRAINING MANAGER

YOU ARE NOW ELIGIBLE TO RECEIVE A STAFF PASS!

_____INTERVIEW WITH DAVE _____STAFF PASS RECEIVED

_____TERMINATION DATE _____UNIFORM RETURNED

Name_____ Date of Hire___/___/___ BYU Outdoors Unlimited

Levels	Rental Technician	Bike Mechanic	Ski Technician	Rock Climbing Tech.	Kayak Tech
Apprentice	O.U. employee training certification_____ Staff Pass_____ Phone Training _____ Cash Training _____ Completed on __/___/__ **BENEFITS**-Use of equip & tools- employee discounts	Knowledge of components__ Do the following: Fill out repair tag _____ Understand bike repair ____ Fill out sales tag _____ Demonstrate knowledge of bike lines and prices _____ Completed on __/___/__ **BENEFITS**-20% off access. 20% off retail prices of bikes	binding certified with Marker, Tyrolia, and Salomon _____ correctly fill out a ski repair tag _____ demonstate correct ski rental form procedure _____ has tested 10 pr rental skis___ Alpine ski tune _____ Nordic ski tune _____ Completed on __/___/__ **BENEFITS**-30% off ski acc. 20% off MSRP ski prices	Has read chapter one of the shop copy of How To Rock Climb _____ Can demonstrate use of all equipment we sell _____ Has climbed a 5.6 route (TR is acceptable) _____ Completed on __/___/__ **BENEFITS**- 15% off gear	Demonstrate knowledge of boat anatomy _____ Be familiar with brands and models of the boats we sell __ Is familiar with all components of the kayak package _____ Completed on __/___/__
Journeyman	Employed at O.U. for 8 mos or more_____ Have participated in: a raft or cave trip _____ 5 of the following including at least one winter activity during OU employment alpine skiing __ XC skiing __ snowboarding __canoeing __ rock climbing__Mtn biking__ kayaking __ in-line skating __ overnight camping __ sailboarding __	Know bike features and selling points _____ Able to do the following: Estimates on repairs _____ Fix a flat tire _____ Adjust derailleurs _____ Adjust headset and BB ___ Assess tightness of relevant parts _____ Perform skills monthly _____ Competent to sell bikes and work on rental bikes _____ Check out bikes _____ Sell two bikes yearly _____ **BENEFITS**-Cost + 10% (accs), Cost + 10% (bikes)	Rental P-tex repair _____ Customer ski tune _____ Has done two of the following: Alpine skiing _____ Snowboarding _____ XC skiing _____ Monoskiing _____ (during employment at O.U.) Tested 20 pair rental skis ____ **BENEFITS**: cost + 15% skis cost + 10% on ski accessories	Has read chapters 2 - 4 in How to Rock Climb _____ Has lead a bolted 5.7 or harder climb _____ **BENEFITS**- 25% off gear	Has taken the kayak class ___ Has been on moving water () times _____ Know features and selling points _____
Master Craftsman	157	True wheels _____ Complete overhaul _____ Perform skills monthly _____ Competent to work on customer bikes _____ Sell ten bikes yearly _____ **BENEFITS**- Proform bike	Customoer P-tex certified ___ Edge repairs _____ Delamination repairs _____ Snowboard tune _____ Binding mount _____	Has read chapters 5- 7 & 9 of How to Rock Cll mb _____ Has lead a 5.7 traditional route _____ **BENEFITS**- cost + 10% on all gear and Proform where	Competent to instruct _____ 153

jbc

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OPERATIONAL GUIDELINES

BYU OUTDOORS UNLIMITED

Financial Business

For Profit Business	Not For Profit Business	
	Budgeted	Client Based
Product Income +Service Income Gross Income -Expenses Net Income which goes to Proprieter, Partnership, Stockholder.	Money received from donor -Expenses left over money returned to donor	Product Income +Services ncome Gross Income -Expenses Net Income which is used to: 1) Compensate for inflation 2) Expand products and services 3) Stay with organization

We are employees of the Church, through the University, serving the students within the parameters set by the Church, through the University, for the Students.

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BYU OUTDOORS UNLIMITED
Training Videos

1. "Student Life", Outdoors Unlimited
   Topics: New employees, interns, and guides are welcomed by the Manager of BYU Outdoors Unlimited, the Director of the Student Union, the Dean of the College and the Vice-President of the university. Each administrator speaks for 2-5 minutes welcoming the new Outdoors Unlimited person. 20 minutes..

2. "Making It Work", American Rental Association, 1991
   Topics: Employee/Customer relations, Employee appearance, Rental Contracts, phone protocols, multiple customers, customer service, etc. 20+ minutes

3. "7-11 Theft Prevention", 7-Eleven, 1985
   Topics: Age of most thieves, Likely targets of thieves, Length of avg. robbery, How to avoid being a victim of a robbery and what to do if it happens. 50+ minutes..

4. "Good Selling Techniques", Brown Brothers Sporting Goods Stores (Illinois)
   Topics: Ways to approach customers, "Find out" questions for customers, Ways to close a sale. 40 + minutes

5. "Shoplifting and Store Security", Brown Brothers Sporting Goods Stores (Illinois)
   Topics: How shoplifters steal, Ways to prevent shoplifters, Ways to deal with shoplifters when caught in the act. 40 minutes

6. "Pro Advantage - Rafting", Pro-Advantage Distributor Utah) 1987
   Topics: Raft design and construction safety guidelines and Type of rafts certified for whitewater. 10 minutes

7. "Colorado Boating: White Water Boating", Colorado White Water Safety Board, Colorado State Parks and Recreation, 1991
   Topics: Risks of white water boating, River rating system, Techniques for when you are thrown from the boat, Safety rescue techniques. 25 minutes

8. "Eureka! Tents: Buyers Guide", Eureka!, 1989
   Topics: Purpose of different tent parts, designs, and specifications for Eureka tents. 10 minutes

CLIMBING WALLS: FROM FORM TO FUNCTION

By

Tim J. Moore
Director
Outdoor Pursuit Center
Recreational Sports Center
Miami University
Oxford, Ohio 45056

ABSTRACT:

The climbing wall industry has enjoyed phenomenal growth during the 90's while experiencing the growing pains of a budding field. This paper includes results of a survey that was developed to examine issues related to the development and programming of climbing facilities and programs and provide insights from those who have experienced the process from conceptual design to operations.

Design and construction of artificial climbing structures has become a multi-million dollar business. In the United State alone, more than 200 climbing wall programs have been developed in the last seven years.

In an effort to gain a deeper understanding of the industry and to identify or verify issues concerning the design, construction, and use of climbing walls, the author conducted a survey of 235 climbing gyms in 43 states in the fall of 1997. Forty surveys (n=40, 17% of the sample), were returned in various states of completion from the initial survey. Therefore, the number of those reporting on each item of the survey is provided in the results. Some items on the survey (total square feet of climbable surface, n = 88, and height, n = 84) were obtained from the climbing gym web site developed by the Phoenix Rock Gym and other gyms responding to the survey. The results of the initial survey are provided in table form with a brief discussion of each item for quantitative data and questions, response lists, and discussion for qualitative data. A second mailing of the survey is currently underway and updated results will be available from the author in May of 1998.

In addition to the survey, the author conducted numerous discussions with wall manufacturers, architects, engineers, climbing gym owners, wall managers and staff, competition organizers, and of course, climbers. Knowledge gained from these discussions and personal experience also helped shape the ideas and information contained in the discussion of the data and in the summary and conclusion that follows the survey results.

Climbing Gym Survey Results

Table 1
Measures of Central Tendency in Square Feet
Reported in Total and by Specific Climbing Area Type

n = # responding	88	7	8	16
	Total	Top Rope	Lead	Bouldering
Mean	6098	3572	2132	610
Median	5000	4000	2500	1000
Mode	6000	4000	3000	1000

Note: Mean total square feet from 1990 study = 1652
From Survey of Selected Climbing Gyms in North America
ORCA Outdoor Programmer's Resource Guide (25 Gyms Surveyed)

Table 2
Mean Percent of Wall Space
Dedicated to Specific Climbing Wall Area Types

n = # responding	88	7	8	16
	Total	Top Rope	Lead	Bouldering
Mean Square Feet	6098	3572	2132	610
Avg. % of Space		**59%**	**35%**	**10%**

Table 3
Measure of Variability in Square Feet
Reported in Total and by Specific Climbing Area Type

n = # responding	88	7	8	16
	Total	Top Rope	Lead	Bouldering
Range	19,500	6800	5160	2204

Notes:

1) Largest Gym Responding — Upper Limits Rock Gym, Bloomington, IL — 20,000

2) Smallest Gym Responding — Fillmore Elementary School, Hamilton, OH — 500

Table 4
Adjusted Mean in Square Feet
Reported in Total and by Specific Climbing Area Type

n = # responding	86	5	6	14
	Total	Top Rope	Lead	Bouldering
Adjusted Mean	6001	3800	2342	974

Note: The largest and smallest gym measurements were removed from the data set for each item listed in Table 4 to achieve the adjusted mean measurements.

Measures of central tendency for total square feet and specific climbing areas including top rope, lead, and bouldering area for climbing gyms responding to the survey are reported in Table 1. Mean percent of climbable surface dedicated to specific climbing areas is found in Table 2 and the range in total square feet and specific climbing areas for climbing gyms responding to the survey is shown in Table 3. Notes are provided for further clarification of the results.

The results suggest, that the mean size of climbing walls have increased significantly since 1990, when the author surveyed 25 gyms and reported a mean total square feet of 1652. The data also indicates that climbing gyms are using climbable surface for more than one purpose or overlapping specific use areas. The results of the measure of variability for those responding to the survey show a wide range in the square feet reported by climbing gyms responding. Therefore, an adjusted mean in total square feet and specific climbing areas is reported in Table 4, and was determined by removing the largest and smallest measurements from each data set. The results of Table 4 add credence to measures of central tendency reported in Table 1.

Table 5
Mean Total Project Cost, Mean Square Feet of Climbable Surface and Mean Total Cost per Square Foot for Gyms Reporting Total Costs

n = 31	Mean Total Project Cost	Mean Total Square Feet	Mean Tot. Cost/Sq. Ft.
	$121,823	7875	$15.47

Table 6
Mean Itemized Project Costs and Total of Mean Itemized Project Costs For Gyms Reporting Itemized Costs

Column	A	B	C	
n = # responding	10	22	24	variable
	Design	Construction	Equipment	Total of A,B,C
Mean Itemized Costs	$6280	$72,055	$18,938	$97,273

Table 7
Mean Itemized Project Costs per Square Foot, Total of Mean Itemized Project Costs per Square Foot, and the Mean Total Square Feet per Type of Itemized Cost, for Gyms Reporting Itemized Costs

Column	A	B	C	
n = # responding	10	22	24	variable
	Design	Construction	Equipment	Total of A,B,C
Mean Development Costs	$1.75	$8.26	$4.80	$14.81
Mean Total Sq. Ft. per Item	3589	8723	3945	

The mean total project costs associated with design, construction, start-up equipment, mean square feet and cost per square foot for gyms reporting itemized project costs is shown in Table 5. The mean itemized costs and sum of the itemized costs for gyms responding to these specific survey items is found in Table 6. In Table 7, the mean itemized project costs per square foot, the total of mean itemized project costs per square foot, and the mean total square feet per type of itemized development cost for gyms reporting itemized costs are reported. It should be noted that for Tables 6 and 7, mean itemized costs were determined by using the mean costs and square feet for only those gyms reporting each specific type of itemized cost.

The survey results shown in Tables 5-7 provide interesting information concerning costs associated with the development of climbing wall projects. It should be noted that the mean size of gyms reporting costs in Table 5 (7875 sq. ft.) is considerably higher than the mean (6098 sq. ft.) reported in Table 1. Secondly, some gyms responding reported only construction and equipment costs because they designed their gym as a personal project and did not associate costs with this part of project development. Twenty-two of the gyms responding were designed and built by climbing gym staff or local contractors which may account for the relatively low mean costs associated with project design and construction, shown in both Tables 5 and 7. It is also interesting to note that the normal range of total cost per square foot for gyms built by climbing wall manufacturers is $40-65 per square foot in terms of the issues raised concerning project development problems under Survey Question 1 in the Qualitative Data section.

Table 8
Mean Total Number of Route Stations and
Mean Number of Route Stations per 1000 Square Foot by Route Type
For Gyms Responding to the Survey

n = # responding	27	12	5
Type of Climbing Area	Top Rope	Lead	Boulder
Mean Tot. Number of Route Stations per Gym	18	12	4
Mean Number of Route Stations per 1000 sq. ft.	4	2	1

Information concerning the mean total number of route stations and the mean number of route stations per 1000 square foot for gyms responding to the survey is provided in Table 8. This data was compiled to provide information that may be useful in project development and/or re-engineering. To provide additional meaning to the information in this table, the mean height for 84 climbing gyms listed on the web is 33 feet.

Qualitative Data Compiled from the Survey

235 Gyms Surveyed, 40 Surveys completed and returned, a 17% Return rate
The following are survey questions (in bold), lists of compiled responses, and discussion of issues raised by the responses to each question:

Survey Question 1.
What problems did you experience in the development of your climbing gym?

Thirty climbing gyms (75% of those responding) reported one or more problems with the development of their project. Responses were compiled and categorized into comment themes listed below. Some responses fit more than one theme category and were counted as responses in all categories that were applicable. The number of total responses and percent of those responding is noted in parentheses after each comment theme. The number of responses listed under each comment theme is one unless indicated with a number in parentheses after each response listed.

Design (11, 28%)
Unable to access the inside/back of walls in dealing with repairs (2), plans did not fit space, hard to retrofit climbing wall in existing space, safety flooring/landing not included in the project, floor could not support wall, work station not included in design, supervision of wall not considered in design (2), programming potential/needs not considered in design (2), texturing of the wall is problematic.

Equipment (11, 28%)
Problems with bolts, spinning t-nuts (3), floor anchors, mats, safety flooring materials (2), lighting, repair materials, and holds.

Time (10, 25%)
Not enough time for program development, too much time in project development, time delays due to fire/zoning/plan approval (3), agency bureaucracy, developing projects without architects and engineers, working with companies and individuals who do not have experience or are not stable businesses, too much time in construction phase, too much time in program design phase.

Money (9, 23%)
Cost overruns (3), cash flow (2), raising money for project development (3), cost of climbing and support equipment not included in the project.

Working with Institutions and Agencies (9, 23%)
Fire codes (2), engineering approval, architects, city permits (2), school administration, insurance agencies. Difficulties in communicating needs when working with companies and individuals who do not have experience or are not stable businesses.

Location (5, 13%)
Low participation because club is for members only, located in basement of old facility, located far from target market group, located in highly visible area, not located in highly visible area.

Discussion of Responses for Question 1.
Comment themes concerning project development problems in descending order of the number of responses received, include: design and equipment (11 responses in each category, 28%), time (10 responses, 25%), money and working with institutions and agencies (both with 9 responses, 23%), and location (5 responses, 13%). The compiled responses identify many issues common to the development of a variety of types of construction projects, such as delays due to permits, zoning, and engineering, cost overruns, bureaucracy, and communication of design or program needs. Many of these issues are beyond the control of the user, but may be mitigated by employing professional assistance in the project development phase and through detailed planning.

The design and equipment categories topped the list of project development problems, providing a host of issues including: difficulties in the development or application of design plans; inclusion of safety features, operational equipment, and/or work or storage spaces in the project plan; problems with wall operations or maintenance due to failure of the host structure, equipment or materials.

The precious commodity of time was cited as a project development problem for 10 (25%) of those responding to the survey. Issues regarding delays for approval, permits, and/or meeting building codes were the most frequent responses. Developing projects without professional or experienced assistance, and too much time in program or design development were other issues that created frustrations for survey respondents.

Money problems were reported by only nine (23%) of those responding to the survey. Cost overruns, cash flow problems, and raising money for project development were the three types of money problems cited by respondents. Detailed planning in the design phase of the facilities and sound business planning practices were cited by those gyms who did not report project development problems.

It is an interesting concept working with agencies that do not have a clear understanding of the climbing wall industry. Nine gyms (23%) of those responding to the survey reported issues related to working with agencies and institutions, citing: meeting codes; obtaining engineering approval or city permits; and working with architects, school administration, insurance agencies, and contractors as stumbling blocks in the development of their projects.

As with any business or service operation, location is extremely important, however, due to the fact that climbing gym operations require vertical space, it may be difficult to locate or define spaces or facilities that provide appropriate vertical space and visibility, proximity to target market groups, and/or activity area security. Creative concepts employed by some climbing gyms include the development of climbing walls in unused or underused facilities such as churches, grain silos, warehouses, barns, racquetball courts, and gymnasiums.

Survey Question 2.
What problems have you experienced in the use or programming of your climbing gym?

Twenty-three gyms (58% of those responding) reported one or more problems with programming. Responses were compiled and categorized into comment themes. The number of total responses and percent of those responding is noted in parentheses after each

comment theme. The number of responses listed under each comment theme is one unless indicated with a number in parentheses after each response listed.

Program Operations (15, 38%)
Route setting (3), supervision (3), instructional systems, not enough time for program development, noise from other activities, marketing, dust, need larger harnesses, belay-device and/or chalk theft (2), baby-sitting.

Participation (14, 35%)
Not enough during specific times or seasons (5), too much to handle (3), parents not interested in participating, attitudes of visiting climbers, programming for special needs (2), kids playing on the wall (2).

Space or Design (14, 35%)
Crowded at certain times, need more space (3), no or inadequate work station (2), sharing space is difficult to coordinate, space not suitable for specific climbing activities, limited space hinders ability to offer clinics, traffic bottlenecks, difficult to view competitions, difficult to supervise, difficult to have instruction and open climbing or other activities operating simultaneously, project research conducted by individuals who did not have experience in the development of climbing walls.

Staffing (11, 28%)
Recruiting qualified staff (3), staff motivation, keeping qualified staff, finding good route setters (3), consistency of staff in testing and supervision, getting staff to work specific hours/days, work ethic.

Multi-Use Needs (6, 15%)
Children and adults, groups and informal climbing, other sports/activities and climbing, instruction and informal climbing (2), locals and visiting climbers.

Education (5, 13%)
Keeping kids attention, justification for safety training, development of instructional systems, constant educational needs of clients and staff (2).

Discussion of responses for question 2.
Problems related to programming offer important information to those contemplating the development of a climbing wall facility and program as well as gyms that are in operation. Although examining the problems climbing gyms are experiencing in programming may be more easily addressed in the project development phase, creative re-engineering of spaces can resolve some issues. Responses for Question 2. fit into the following category themes in descending order of the number of responses received: program operations (15 responses, 38%), participation (14 responses, 35%), space and design, and staffing categories both recorded (8 responses, 20%), multi-use needs (7 responses, 18%), and education (4 responses, 10%).

Responses under the theme category program operations indicate that route setting and supervision of the climbing wall are the most common programming issues for those responding to the survey. Other program operation issues are related to environmental conditions, equipment needs, and potential program service needs (baby sitting).

The participation category offered a mixed bag of results including: too much and not enough participation, problems with climber attitudes, programming for special needs, and children playing at the wall. This category provides fodder for the creation of new programs and services that would relieve participation problems.

Space and design problems once again won recognition in question 2 of the survey. It is interesting to note that although the mean total square feet of climbing surface reported by

climbing gyms has increased 370% in the last seven years, respondents report problems related to crowding, needs for space, and traffic bottlenecks. Some important design and space issues are not realized until a wall is in operation. Climbing gyms noted programming issues that could be addressed in the design phase, including: space for specific programming needs such as group events or instructional programs, design issues related to climbing competition venue needs, work station needs, the ability to supervise wall operations, and design issues related to types of programs and simultaneous use by different user groups.

Staffing problems were cited by 11 (28%) of those responding to the survey. Over half of those responding identified recruitment and retention of staff or the need for staff with specialized skills such as route setting as staffing issues that effect programming. Other problems related to employee behavioral issues such as motivation, work ethic, and commitment to agency needs were reported by those responding.

Multi-use needs were reported as programming problems for six (15%) of the gyms responding to the survey. Responses in this category involved problems associated with different user groups or program types utilizing the wall simultaneously.

Five (13%) responses were compiled under the category theme of education. Program problems cited were not related to project development.

Survey Question 3.
What are the wall features, that you feel, are critical to the success of your gym?

Twenty-two gyms (55% of those responding) reported one or more features that are critical to the success of their climbing gym? Responses were compiled and categorized into comment themes and are listed in descending order of the number of theme responses received. Some responses fit more than one theme category and were counted as responses in all categories that were applicable. The number of total responses and percent of those responding is noted in parentheses after each comment theme. The number of responses listed under each comment theme is one unless indicated with a number in parentheses after each response listed.

Design (17, 43%)
Interesting design, aesthetically pleasing (3), color and texture, overhanging walls (2), roof problems, natural features and holds (2), location and concentration of hold placement positions (2), ability to change wall angles, space developed for instruction needs (2), variety of terrain, designed with consideration of safety issues.

Routes (15, 38%)
Frequency of route changing (2), quality of route setting program (3), route descriptions (2), quantity of identified easy and moderate level routes (3), wide range of routes (easy to hard), possibilities for route engineering, good route setting for competitions, and long or tall routes (2).

Location (10, 25%)
Visibility (3), privacy, accessibility, facility amenities (2), activity area amenities, security, natural cliff area.

Size of Space (5, 13%)
adequate space for all types of activities, long or tall routes (2), plenty of bouldering areas, many top rope stations.

Discussion of responses for question 3.
Responses for Question 3 were placed in the following category themes in descending order of the number of responses received: design (17 responses, 43%), routes (15 responses, 38%), location (10 responses, 25%), and size and space (5 responses, 18%). It is interesting to note that some of the themes and/or responses listed as problems at some gyms, were also listed as features that are critical to the success of other climbing gym. The reoccurring themes and/or responses include: design, space, routes, and location.

Once again, design was at the top of the list in terms of the number of responses received concerning features that are critical to gym success. Aesthetic issues related to project design received 5 of the 17 responses in this category and included: interesting design, color and texture, aesthetically pleasing design. Structural issues were also common in the design category receiving 9 responses which included: overhanging walls, roof problems, natural features and holds, location and concentration of hold placement positions, and variety of terrain. The remaining 3 responses concern functional that are critical to gym success, and include space designed to address instruction needs and safety issues.

The theme category routes received the second most responses for features that are critical to gym success. In this category, issues related to the route setting program including: frequency of changing routes, the quality of their route setting program, the number of identified easy to moderate routes, and variety of routes (easy to hard), route descriptions, and good route setting for competitions received a total of 11 responses. Although, the aforementioned responses are critical to the operation of a climbing gym, and are important to consider when developing a program plan, they are not directly related to project development. However, structural issues concerning routes, which can be addressed in project design received 3 responses and included long or tall routes and possibilities for route engineering. It should also be noted that storage space and costs associated with equipment such as ladders, cordless power drills, hold buckets, and bags, holds, bolts, ascenders, etriers and other equipment need to be included in the project costs, to provide for the basic needs of a solid route setting program.

The theme category location received a total of nine responses on the surveys returned as a feature that was critical to the success of climbing programs. Visibility was mentioned on three surveys and privacy was mentioned on one, which is interesting to note in terms of types of users, user needs, and design features. While experienced climbers may or may not be effected by high visibility, often times novice climbers prefer a more private setting as they develop skills and confidence. Facility and activity area amenities including everything from fitness equipment to restrooms and drinking fountains were listed as important features that were critical to gym success on three surveys. In terms of the development of a climbing wall project, it is important to consider the types and proximity to amenities that will provide for quality customer service. In addition, diversification of services such as providing outdoor instruction or trips, personal training, and/or fitness equipment can provide additional revenue generating possibilities. The Good Life Climbing Gym reported their location is a natural cliff area, and states they are "the only natural cliff in the world being used as a gym."

Size and space features were reported on five surveys and included responses such as adequate space for all activities, long or tall routes, plenty of bouldering areas, and many top rope stations. It is important to consider all of these issues in the development of a comprehensive climbing wall facility and program design.

Survey Summary

Although the initial survey results were somewhat disappointing in terms of number of surveys returned and the lack of complete data in the surveys that were returned, the author was able to identify some common themes and compile information that may be useful to the climbing gym industry and those who are planning to develop climbing gyms and programs.

The results of this survey indicate that the size of climbing gyms have increased dramatically during the '90's, with most gyms reporting between 5000 and 6100 square feet of climbable surface. Some gyms are finding that they have adequate space while smaller gyms are finding that as interest in the sport grows, they are beginning to meet or exceed maximum capacity for at least certain times. Average size and percent of space dedicated to specific climbing activities was also provided to learn more about how walls are being programmed and used.

Project development costs indicated that while experienced manufactures like Radwall, Entre Prise, Nicros, Compwall and Arete Climbing Systems are being kept busy designing and constructing walls nationwide, the majority of the walls today are being built by local carpenters and climbers. The survey indicates that mean project costs range between $97,000 and $121,000, for a mean range of cost per square foot at between $14.81 and $15.47.

The qualitative data compiled from the survey yielded numerous responses that were categorized into comment themes in an effort to compile and analyze responses. It was clear that normal issues associated with the development of any construction project plagued survey respondents as well. In terms of themes that were prominent or reoccurring, design and space issues, location, and staffing and program operational issues were indicated on many of the surveys returned. It is interesting to note that some of the themes such as space, design, and location were cited in the two questions concerning problems experienced by some gyms and again in the question concerning features that are critical to gym success by other gyms.

Conclusion

The development of a comprehensive plan for a climbing facility and program is a time consuming and multi-faceted project. A detailed approach to the planning process involves research and documentation to determine: the purpose and goals of the climbing gym; the potential market groups to be served; wall space, business or operational space needs, participant capacity; facility, safety, and code requirements; desired design features and aesthetic qualities; wall materials and equipment needs; maintenance issues; and costs associated with design, construction, and business operations; and last but not least, income generating potential of the operation. Although, this will not address the issues of time spent in the planning and development process, it may reduce delays and design and equipment problems once the project is underway and on into the future of program operations. The planning process will clarify issues and spawn many ideas and concepts that can be utilized in the design and development phase.

As the survey results indicate, the design and project development phases offer many challenges and situations that can effect program operation and gym success well into the future. It is interesting to note that 22 climbing gyms (73%) of those reporting project development and programming problems were designed by climbing wall staff and/or local contractors. Although the cost of employing reputable climbing wall industry engineers, builders and artisans is significantly higher than locally developed projects, the expertise of these individuals and agencies can help overcome costly design, construction, and operational problems as well as address issues related to educating and promoting the climbing wall concept to administrators, agencies, or others who may impact the decision making process.

When working on a large scale facility, those involved in the decision making process (e.g. architects, engineers and administrators) should be encouraged to experience climbing and confer with the climbing community for their input on the design of the climbing area. It is no secret that the best climbing walls are designed by climbers, but professional assistance from architects or consultants can help to synthesize climbing and program operational needs into a coherent design.

Climbers are challenged by terrain and special obstacles and desire design features that represent problems found on natural crags and an aesthetically pleasing surface. A good combination of a generous grid of hold placement positions on wall panels, a wide variety of movable holds, and carefully planned "natural" or permanent features can create an environment where almost any type of problem can be developed. "Natural" features add to aesthetics and assist climbers in developing route finding skills, but an over abundance of "naturals" can create route setting, hold placement, and competition nightmares. Wall design features should accommodate the activities and participation that will be serviced such as beginner to advanced instruction, group events, informal climbing, competitions, and route setting. Basic design features may include aretes, dihedrals, overhanging routes, flakes, chimneys, buttresses, roof problems, bouldering caves, slabs, and cracks.

The design of the wall, however, is only part of the problem. The space surrounding the wall should be adequate to support wall activities, address safety issues, provide adequate services. Considerations that would fit into these three categories include:

- Wall Activities - belay stations, waiting climbers, group instruction and spectator areas, work stations and storage areas, and customer traffic patterns
- Safety Issues - swing cones, landing surfaces and/or padding
- Adequate Services - necessary amenities like drinking fountains, restrooms, showers, rental and retail areas, vending machines or food service, conference/meeting rooms, and other activity areas

The following includes an abbreviated list of steps for the design and development of a climbing gym project. Working through these issues requires patience, education, time, and the establishment and maintenance of good working relationships with all agencies and individuals involved. Achieving success in project development requires constant communication and assurance that the end users needs and desires are heard and addressed throughout all phases of project development.

Pre-design Phase

- Develop a comprehensive plan as described in the first paragraph of the conclusion.
- If possible hold an on site meeting with users, contractor, architects and engineers to view area and surrounding spaces. If this is not possible, supply all necessary information, blue prints and supporting documents.
- Discuss purpose and uses of the wall:
  - Training/instruction
  - Open recreation
  - Competition
  - Group Events
  - Route Setting
- Discuss features desired
- Give photos or visit local crags
- Provide ideas to contractor on design features
- Give floor plan to contractor

Design Phase

- Request a three dimensional model to ensure appropriate design elements
- Detail wall, flooring, padding concerns and needs, work stations, support areas and amenities needs.

Construction Phase

- Work with contractor to make sure installation goes as planned
- Check to make sure small details are worked out and attended to:
  - Superstructure
  - Wall panels
  - Hold placement grid
  - Belay bars
  - Floor anchors

Bolt hangers
Repair training and materials
Learn and practice wall maintenance with the contractor
Work through safety issues and conduct safety checks

- Carefully consider traffic patterns, supervision and programming issues, work station placement, etc., during the construction phase and be flexible enough to change plans if needed.

The increasing demand for adventure recreation across the country in the past twenty years has triggered opportunities for a variety of activities. Some adventure programs offering only trips and workshops to local or distant climbing areas may not be meeting the needs of a growing and varied adventure recreation market. The demand for activities such as climbing in private, public and collegiate recreation centers is staggering, and as more people are exposed to the challenges and exhilaration of the sport, the demands and challenges for more climbing walls and diverse program offerings will only increase.

Accreditation for Indoor Climbing Facilities

By

Peter Mayfield
Board Member for ORCA's Climbing Gym Association

A few years ago, the idea that a majority of climbing lessons and experiences would occur on manufactured climbing walls was hard to imagine. This idea has come to be a reality for the sport of climbing. The number of user days on manufactured walls in the US is staggering. Equally impressive is the safety record that this young industry has established. Imagine the countless numbers of figure 8 knots tied by novices in often distracting environments. It is truly amazing (and statistically improbable considering participant volume) that there has been, to date, no major accident, claim, lawsuit, or payout.

It is inevitable that someday our industry will deal with serious accidents and the scrutiny of our litigious society. With this in mind, and in pursuit of the goal of promoting effective risk management in the climbing gym industry, the Climbing Gym Association (CGA) has developed the Peer Review and Accreditation Program. The program is a process of review and dialogue between a team of qualified and experienced CGA reviewers and a climbing facility operator to assess the effectiveness of the facility's risk management and operational practices.

We are often asked "what are the standards?". Currently the CGA has published a list of Accepted Industry Practices (AIP's) which have been approved by the membership and are continually updated. Beyond the AIP's, the standards are open to interpretation. The Peer Review and Accreditation program is an effective base from which further standards will develop. The programs peer reviewers represent some of the most experienced climbing wall operators in the industry.

The CGA is a useful organization for university climbing wall programs to join. Even with the staff turnover intrinsic to a university program, the process of an accreditation review and the maintenance of an accredited status would help with the effectiveness and continuity of risk management practices.

The following is a list of headings from the Topics for Review as shown in the attached accreditation manual. I offer the following observations on accepted procedures and practices from the six peer reviews I have conducted as well as insights drawn from ten years of indoor climbing development and twenty years of outdoor guiding. The opinions expressed are my own in collaboration with many others. A major goal of the CGA is the encouragement of diverse opinion, and all input and opinion is sought. Speak up, get involved, and be safe!

Access

Control of Access

Control of access can be accomplished by proper positioning and design of the front desk and the sound policies and clear boundaries between observation areas and climbing areas.

Duty to Notify

Duty to notify means that all participants have been given enough accurate information to be reasonably assume the risks inherent in the sport of rock

climbing. This can be accomplished through signage such as the Climb Smart! program, clearly posted rules, liability release forms, and especially by the information imparted by the front-line staff.

Special care should be taken with off-site parents and go-between outfitters like day camps. What information are you sending out with your liability release forms? Are all liability release forms for youth signed by a parent or legal guardian?

Documentation and Liability Release Forms

Proper handling of information means that all participants have some documented qualification status (safety test results) and a signed waiver/release/assumption of risk form that has been written to comply with local laws. All information should be easily accessible.

Testing

The heart of climbing wall risk management is the qualification system, often called the safety check or belay test. The test should be thorough and should include the climbers demonstration of:

1. putting on the harness,
2. tying in with a figure eight follow through knot, and
3. proper belay and lowering technique.

The most effective tests we have observed involved a live test (actual person gets belayed) and very skilled staff. A key issue is who can take a test, or pre-qualification. When is the test given? It is preferred that students take the test on a follow up visit rather than the same night as the beginning lesson. The close of a safety check is the ideal time for the staff member to explain all rules and relevant safety information.

Monitoring

When conducting an accreditation review reviewers prefer to observe a gym during a busy evening. Supervising a busy climbing gym is an art requiring both observation and intuition. Through the reviewers' own observations and interviews with employees they look for areas of higher risk, an awareness throughout the staff of high risk spots and near miss incidents. The key to successful staff supervision of climbing walls is ongoing training and effective, rapid communication throughout the entire staff. It is particularly important that all staff hear immediately about near misses, accidents, and changes in policy or procedures.

Staffing

The climbing facilities that I have looked at hold safety as the primary core value of their operation. These organizations tend to hire and keep the most experienced climbing staff they can find. In many ways the indoor climbing industry was allowed to flourish because of the exemplary safety record that US climbing schools and guide services have established. A strong tradition of mentoring and apprenticeship, coupled with very low turnover, means that guides in these organizations grow in their skills and learn more regarding safety each year. Contrast this process to that of the store front fitness club with a rotating cast of young, low paid front desk workers. Unfortunately many new wall operators, concerned only with making a profit, choose the latter model to emulate. University programs are challenged by the dual goals of providing adventure recreation and education with maximum safety, as well as developing leadership skills amongst student staff. These sometimes contrasting goals can be achieved provided that the

program is blessed with experienced, committed leaders who hold program safety and the continuity of staff professionalism as primary core values.

One of the more controversial issues right now in our industry is the use of volunteers or "trade members". In exchange for free membership, people work for free and provide the various services offered at a climbing wall. Though attractive as a means to save labor costs, this practice would be difficult to justify when faced with a claim or lawsuit. Imagine explaining to a jury why some of the program belayers are thoroughly trained and others are not; being in violation of laws relating to workers compensation insurance would not help the case. The bottom line is that all staff need to be qualified and thoroughly trained. There should be a plan for staff trainings. These trainings should be well documented.

Management Systems

See above. I look for the various ways that program managers stay in touch with the operation and the staff. Is there good communication throughout the organization? Are safety concerns dealt with in a forthright and timely fashion? Are new programs thoroughly reviewed?

Insurance

All programs offered by the climbing facility should be clearly covered under the policy.

Equipment and Maintenance

Indoor climbing tends to have higher use and have a harder impact on equipment than outdoor activities. Of primary importance is a schedule of inspection that is consistently followed and documented. Ropes are the most vulnerable to wear and should be inspected often. How often? Many gyms inspect their ropes, belay devices, and anchors every day prior to opening. Others will do a complete inspection once a week. Most important is that there is a clear policy that is consistently followed.

A common question involves the type of belay devices used (i.e. Gri-Gri's or ATC's) and how (e.g. in situ or checked out at the desk). Although there is no one "correct" device, with whatever devices that are used it is important for the facility to be thorough and consistent on its device and use policies, and its teaching methods regarding these devices. Having shortcuts to the classical safety system are not advisable, i.e. clipping into the rope rather than tying in, or belay devices that are permanently anchored to the floor and do not require direct connection to the belayer. The time that is saved by the climber might come at the expense of double checking by his/her partner or supervising staff.

Walls, Anchors, and Landing Surfaces

The CGA now insists that all accredited climbing wall programs have walls that have engineering documentation and proper building permits. The CGA reviewers are not qualified to test walls in the field but check to see that the project engineer was aware of the CWIG (Climbing Wall Industry Group) standards and that the walls are engineered in reference to those standards. Belay anchors are inspected and evaluated from the viewpoint of proper outdoor anchoring, the SRENE (secure, redundant, equalized, no extension) principle applies.

Since most of the busier wall operations in the US have provided impact attenuation material at the base of the wall, effective floor padding is considered to be the "standard of care" within our industry. Almost every wall has an "Achilles heel", an

area where the floor padding is less effective or impossible to fit given other requirements like the American Disabilities Act or building codes. Look to see if such an area can be improved or if there are any hazards that can be mitigated by course setting boundaries.

Operations Manual

The most important aspect of the manual is that it is consistent in word and practice and that the entire staff is well acquainted with it.

Program Activities and Safety

This is where reviewers look at the nuts and bolts of program risk management. What is the instructor/student ratio? Are students spotting each other while bouldering? Are new belayers backed up? Of particular concern these days is lead climbing. We have seen some programs where people are pushed into leading when they have been climbing only a very short time. Many programs cover the main climbing techniques effectively but fail to protect students from common sports injuries by giving them information on warming up, and the importance of rest and recovery time.

Another hot issue these days is the length of lessons. Many of the older more established climbing gyms have adopted two hours as a minimum time for a group beginning lesson. A new trend seems to be "quickie" belay lessons, sometimes lasting only for 20 minutes. More important than the actual length of time are the risk management practices employed, the degree to which new students are prepared to safely use the facility, and the follow-up by supervising staff of the student once the lesson is over.

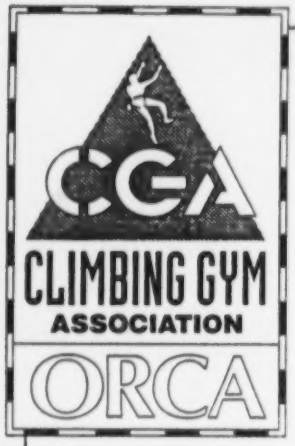
Emergency Procedures

Once again training is the key. A staff that is periodically trained in emergency response by going through actual accident simulations will be much better prepared to deal with an emergency effectively and professionally. Current CPR and basic first aid certification are required for employees of health clubs and therefore of climbing gyms.

Outdoor Programs

The CGA Peer Review and Accreditation Program is for manufactured climbing wall operations. If an organization runs outdoor programs as well, the reviewers will consider the program to see if basic risk management criteria are met. If there are shortcomings in this regard, the accreditation may be withheld. If an outdoor program is deemed to be significant in terms of user days or revenues as an overall part of an operation, the program will be required to go through an outdoor accreditation review within a year of receiving accreditation from the CGA.

To those of us who came into operating climbing walls from a deep background in outdoor instruction and guiding, the idea of junior climbing gym employees passing themselves off to the public as outdoor climbing guides is horrifying. As our industry expands with hundreds of new climbing instructors teaching tens of thousands of new students, maintaining the tradition and safety standards of American climbing instruction is a critical challenge. We hope that the CGA Peer Review and Accreditation Program is a useful tool in helping us all meet that challenge and grow our sport responsibly.



Climbing Gym Association Mission Statement

The mission of the Climbing Gym Association is to promote responsible growth and professionalism within the climbing gym industry. The CGA will provide education and support services. The CGA will facilitate the exchange of information and ideas within the association and with other industry and climbing organizations.

ACCEPTED INDUSTRY PRACTICES

1. Duty to Notify
New customers must be qualified as to their climbing experience and knowledge of climbing safety practices. A qualified gym staff person should inform the customer of the risks inherent in climbing in a gym environment. The customer's knowledge and experience in safety belaying must be determined and they must be informed of the facility's rules and policies.

2. Age Restriction
A customer must be 18 years or older (legally an adult) to use the facility without a parent's or legal guardian's approval as designated by their signature on a release of liability form. Notes from parents are not sufficient. It is generally recommended that a minimum age restriction be established for unsupervised belaying.

3. Release of Liability
All customers must sign a release of liability form prior to using the facility. States have varying laws related to release of liability forms, and therefore; each gym operator should have their form reviewed for consistency with local statute.

4. Belay Check
Each climber must demonstrate their belay proficiency by completing a belay check prior to any unsupervised use of belay systems. The following steps are recommended. The customer should be asked to:

a. Demonstrate the proper application and use of a climbing harness. The harness should be a manufactured harness;
b. Tie in to the harness with a figure eight knot;
c. Demonstrate the proper belay Set-Up. The belay device, carabiner and rope are handed to the customer as separate pieces. Demonstrate proper belay commands and technique;
d. Double check climber's set-up for proper application of harness and appropriate tie-in to harness. The climber should double check the belayer's set-up for proper application of harness, belay device, carabiner and rope.
e. Read or be informed of all rules and policies related to climbing in the gym.

5. Supervision
There must be appropriate supervision by a qualified staff person during hours of operation to insure that policies and procedures am being observed.

6. Safety Records
Appropriate safety inspections should be conducted and documented. Incident/accident reports should be completed for all occurrences and maintained on file.

7. First aid and CPR
A minimum of one staff person that is certified in First Aid and CPR should be supervising the facility during hours of operation.

8. Staff Training
All staff should receive safety, general operations, and emergency medical response training. Training should be documented.

OUTDOOR RECREATION COALITION OF AMERICA

CLIMBING GYM ASSOCIATION

PEER REVIEW & ACCREDITATION MANUAL

A Guide to Conducting Accreditation Reviews for Assessing and Upgrading Risk Management and Operational Practices in Climbing Gyms/Facilities

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Introduction

In pursuit of the goal of promoting effective risk management in the climbing gym industry, the Climbing Gym Association (CGA) has developed the Peer Review and Accreditation Program. The program is a process of review and dialogue between a team of qualified and experienced CGA reviewers and a climbing facility operator to assess the effectiveness of the facility's risk management and operational practices. The standards for conducting these reviews are included in the CGA Accepted Industry Practices (AIP) Handbook (the AIP Handbook is available from the ORCA office). The AIPs are a compilation of accepted industry practices developed by consensus of the CGA membership. The goal of the accreditation program is to help climbing facilities offer high-quality operations with the lowest level of participant risk possible. If the gym meets or exceeds the AIPs, or if acceptable evidence is provided that these practices will be met shortly, then accreditation is awarded. The goal of the review process is to help all participating climbing facilities become accredited. However, this goal can only be obtained with the cooperation of the climbing facility operator. Accreditation is not guaranteed.

A climbing wall or gym operation benefits from accreditation in three primary ways. First, the facility management benefits from an intensive discussion of their risk management and operational practices. The dialogue with the review team provides feedback and constructive input on ways to improve the facility's current safety and operational programs. Second, accreditation assures that the facility conforms with industry standards. Thus the CGA accreditation certificate may be a valuable marketing tool. Third, an accredited facility can save money on its insurance. Certain insurance providers participating in the CGA's insurance discount program have agreed to provide additional discounts to Accredited facilities. The discount received in the facility's first year as an accredited facility may more than exceed the cost of the Peer Review and Accreditation Program.

The Peer Review and Accreditation Program, however, does not provide lifetime accreditation. The climbing gym facility is accredited for an initial 2 1/2 year period in which the facility operator is responsible for maintaining an adequate risk management program. During the accreditation period, the operator is responsible for reporting to the CGA any significant changes in their operation (significant changes are defined more specifically in this manual) that may impact the effectiveness of the facility's risk management program. Failure to report a significant change in operations will jeopardize a facility's accreditation status.

The cost to participate in the CGA Peer Review and Accreditation Program varies depending on the number of days required for the review. The average facility will require two full days for the review, which will be performed by two review team members, a leader and an assistant. The average review will cost $825 plus travel, meal, and lodging expenses of the review team. Detailed cost information, is presented in the section titled "Expense of the Review."

The CGA and its members are dedicated to the responsible growth and professionalism of the climbing gym industry. The Peer Review and Accreditation Program a critical step in this process.

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Overview of the CGA Peer Review and Accreditation Manual

This manual presents guidelines for climbing gym/facility owners and operators in preparing for an accreditation review of their facility and operations. It also provides directions to review team members in conducting the review.

The first section contains general background on accreditation reviews, the second section provides guidance for those conducting reviews, and the third section helps prepare for the review. The final section is a helpful checklist of responsibilities for each party involved in an accreditation review.

Background on Accreditation Reviews

The Peer Review and Accreditation Program of the Climbing Gym Association (CGA) is a voluntary program available to individuals and organizations who own or operate climbing gyms or facilities that conduct operations on artificial climbing walls. The goal of the program is to maintain and upgrade the high standards and excellent safety record of the climbing gym industry through the process of accreditation. CGA members who are themselves climbing gym owners or operators conduct accreditation reviews of climbing gyms/facilities seeking accreditation. During the review, they observe operations and assess appropriateness for accreditation.

Accreditation by CGA is a peer review-based system that offers a method of assuring the industry and public that climbing gyms/facilities are managed within the guidelines of the Accepted Industry Practices (AIP) as outlined by the CGA. The main focus of the AIPs is safety. Additionally, accreditation can in the long term make it easier and more affordable for climbing gyms/facilities to obtain and retain liability insurance.

Scope of Review

The scope of the CGA Peer Review and Accreditation Program is generally limited to activities related to the use and management of artificial climbing structures. However, if a gym/facility also operates a climbing program on natural rock, the review team will observe procedures related to that program as well (such as initial risk management procedures conducted in the gym), and cannot therefore, ignore these related risk management and operational issues. If the review team has reason to believe the outdoor program has inadequate risk management, CGA accreditation of the artificial wall operations may be withheld. If the review team finds that the revenues derived from the "outdoor" program or the number of "outdoor" program climber days are significant in proportion to the operation's total revenues or number of program climber days, and risk management procedures appear adequate, the facility will be required to obtain an accreditation of the outdoor program within one year of the receipt of an artificial wall operations accreditation. In other words, the accreditation of the outdoor program will not be a prerequisite to obtaining CGA accreditation of the artificial wall operations. However, failure to obtain the required accreditation of the outdoor program within the stipulated year will result in withdrawal of the CGA Accreditation of the artificial wall operations.

The CGA believes this additional accreditation is necessary both to protect the consumer and to address the entire operations of a climbing facility. Accreditation of the outdoor portion of a facility's programs

will protect the consumer from wrongly inferring that a CGA accreditation of artificial wall operations applies to all of a facility's programs (artificial and natural rock). Accreditation of programs involving climbing on natural rock is available from the American Mountain Guides Association (AMGA, phone: 303-271-0984) or Association for Experiential Education (AEE, phone: 303-440-8844).

Eligibility

To qualify for an accreditation review, a climbing gym or facility must have been in full operation for at least one year at the time the accreditation application is submitted. A significant accreditation review discount applies to current CGA members. To request a review, complete and send the attached application to Climbing Gym Association Accreditation, ORCA, PO Box 1319, Boulder, CO. 80306. For specific questions, call (303) 444-3353, fax (303) 444-3284, or e-mail to info@orca.org.

In addition to the enclosed form, please include:

1. Three (3) copies of brochures or other materials describing the scope of services.
2. Proof of liability insurance.
3. A signed copy of the CGA Member Pledge.
4. A non-refundable administrative fee of $250 payable to ORCA.
5. A minimum of two proposed dates for the review.

Process of Initial Review

Accreditation reviews are conducted as soon as possible after a request is received. The review team consists of a minimum of two senior CGA members. Members of the review team are approved by the CGA Board of Directors and the climbing gym/facility being reviewed. This assures both the Board of Directors and the climbing gym/facility that the team is composed of members with a background appropriate to the operations being reviewed. It also gives the climbing gym/facility the opportunity to request replacement of an examiner that might benefit competitively from the information obtained during the review.

The length of the review must be sufficient for the team to properly assess all program - and facility - related practices and procedures, especially those related to safety. It will include time spent both in the office and in observation of operations, programs, and practices. Two days is the minimum length for a review. Longer reviews may be needed for larger operations.

The climbing gym/facility being accredited is responsible for expenses of the reviewers

The review team leader writes a report of the visit, including recommendations for changes, if any, within 15 days of the visit. This accreditation review report is circulated to team members and the Chairman of the Accreditation Committee of the Board of Directors. The team members and Accreditation Committee Chairman review the report to verify that it is complete and to determine that its content is appropriate and consistent with the intentions of the accreditation program. Through the CGA/ORCA office, the team members and Chairman notify the team leader of approval or suggestions for changes in the report within 15 days. (30 days from the review date). Following any necessary revisions, the report is sent to the gym or facility being reviewed within 10 days (40 from the date of the review).

Within 30 days of receipt of the accreditation review report, the climbing gym/facility reviewed must respond in writing to the Accreditation Committee at the CGA/ORCA office regarding the recommendations and required changes. In their response, they must state what changes they will make, how and when they will implement the changes, and how they will provide documentation proving the changes have been made. These two reports, the accreditation review report and the subsequent accreditation response report from the climbing gym/facility, are sent to each voting member of the Board of Directors.

The CGA Board of Directors will review the accreditation documentation quarterly at its board meetings. The Board reads and evaluates these materials and if the review and the response are found to be complete and acceptable, the Board grants "Accredited Status" to the climbing gym/facility. This may be contingent on the gym/facility's implementation of the required changes. The climbing gym/facility is required to notify the CGA Board of implementation of all recommendations and required changes. If the Board grants "Accredited Status" to the facility, a letter of Accreditation and Accreditation Agreement is sent to the facility. After the signed Accreditation Agreement is returned to the CGA/ORCA office, a certificate of accreditation is sent to the Accredited facility.

In the event of disagreement over recommendations made by the review team to the climbing gym/facility, the following process will be implemented:

> The gym or facility disputing the recommendations of the review team will submit its argument in writing to the CGA/ORCA Office. The CGA representative at ORCA will acknowledge receipt of the dispute within 10 days and will forward the dispute to the CGA Board.
>
> The review team leader and facility operator will then communicate via phone or in person within 30 days of receipt of the dispute to attempt to resolve the dispute. If a resolution is

reached, it will be written up by the team leader and forwarded to the additional team members for their approval. If the resolution receives unanimous approval by the review team, the dispute is resolved, and a copy of the resolution, signed by all team members, is sent to the CGA Board and the facility operator.

If an agreement is not reached, the next steps will be taken:

If no resolution is reached, the team leader will notify the CGA Board in writing within 40 days of notice of the dispute that no resolution has been reached. At this point, a Special Review Committee will be assigned by the CGA Chairperson to review the case. The Committee will not consist of any of the original review team members. The Committee will interview the facility operator and the review team members and consult any documents they deem relevant. The Committee will then make a recommendation for a resolution at the next quarterly CGA Board Meeting. The recommendation must be approved by two-thirds of the CGA Board. The recommendation may simply be an agreement with the original review team's findings. If this resolution is satisfactory, then the action is noted in the CGA Minutes, and the resolution is resolved.

If an agreement is not reached, then the final step will be taken:

If the facility operator wishes to further dispute the findings of the Committee, he/she must notify the CGA office within 30 days of the CGA Board meeting that they wish a formal hearing. This hearing will be scheduled one day before the next CGA Board meeting. The hearing will be with the full CGA Board and one officer from the ORCA Board of Directors. The decision of this group will be final and must be by a two-thirds vote.

Once a climbing gym/facility has implemented the required changes of the Review Team, they will remain accredited for two and one-half years starting from the date on the letter of confirmation sent by the Board of Directors. They are also required to sign an Accreditation Acceptance specifying the terms of accreditation.

If the accredited climbing gym/facility remains in good standing throughout the two and one-half year term, the subsequent accreditation term shall be extended to four years commencing with the first successful re-review, and will remain a four-year term thereafter.

In the event a climbing gym/facility has a significant change in operations, program activities, or ownership/management of the business, the CGA/ORCA office must be notified in writing 30 days *prior* to the establishment of the significant change. A significant change in program activities may or

may not warrant a re-review, but in the case of ownership/management change, the accreditation is nontransferable and a re-review must take place. Examples of significant changes include:

- Offering an outdoor instruction program when it was not previously offered.
- Offering lead climbing when it was not previously offered.
- Opening a new facility.
- Expanding an existing facility.
- Discontinuing liability insurance coverage.

Any climbing gym/facility in violation of the terms and standards of the accreditation program will be subject to immediate action by the CGA and could result in suspension or revocation of Accredited status.

Subsequent Reviews

Accreditation reviews may take place at any time if deemed necessary by the CGA Board of Directors. These extraordinary reviews will be conducted at the expense of the CGA.

Expense of the Review

A $250 non refundable application fee is payable with each application. Non member applicants pay a $375 application fee. No applications will be considered without payment of the fee. The cost of the peer review will be communicated to the reviewee by the ORCA office via invoices. The peer review cost includes travel expenses (including transportation, lodging and meals) and the review team fees. The travel expenses, 50% of the team leader fee, and 100% of the review team assistant fees will be billed to the reviewee when all expenses have been submitted by the review team to the ORCA office. The invoice will be due and payable by the reviewee upon receipt. The balance of the review team leader's fee will be invoiced by ORCA once the review report has been forwarded to the reviewee for their response. No fees should be paid directly to the review team by the reviewee. All payments should be forwarded to the ORCA office.

The review team leader fee is $125 per day ($190 per day for non member applicants) and will include the days spent on-site and one day of administration. The review team assistant fee is $100 per day ($150 per day for non member applicants) and will only include the days spent on-site during the review. Travel expenses will include an automobile mileage allowance, where applicable, at the Internal Revenue Service approved rate of $.31 per mile. All other travel expenses will be invoiced at

Below is an example of costs for a typical CGA member climbing gym/facility to participate in the Peer Review and Accreditation Program. The typical review takes two days.

Administrative application fee	$ 250
Review team leader fee	375
Review team assistant fee	200
TOTAL - "fixed" peer review fees	$ 825
Variable travel costs:	
Airfare	$ 600
Lodging	250
Meals	100
Rental car or mileage	75
TOTAL estimated costs	$1,850

Mission of the Review Team

The accreditation review team ascertains whether or not the artificial wall programs of the climbing gym or facility are operated in compliance with the Accepted Industry Practices, as published by the Climbing Gym Association and approved by CGA members. The team clearly outlines required changes in safety management in order to meet Accepted Industry Practices in climbing gym/facility operations if needed. The review team members are not required to standardize techniques among climbing gyms/facilities, but rather to ensure that techniques and procedures are appropriate to the facility and programs being reviewed.

The accreditation review team holds details of the operations of the climbing gym/facility in the strictest confidence. Specific consultation with the owner/manager of the climbing gym/facility takes place to clarify the exact items which should be treated as confidential. This might include such items as operating procedures and course curricula. At the climbing gym/facility's request, these materials may be made available only for on-site review.

The accreditation review team investigates all areas it feels are relevant to safety. The following are some general areas for the review team to investigate and assess:

Administration

- Safety objectives/level of risk.
- Participant screening and orientation.

- Communication of inherent risks to participants.
- Participant controls to ensure orientation.
- Special procedures for minors.
- Facility signage.
- Written releases/assumption of risk forms.
- Marketing materials.
- Staff records.
- Insurance records.
- Belay test records.
- Emergency planning.
- Accident/incident records.

Staffing

- Selection and qualifications.
- Verification (references, certificates on file...).
- Training and orientation.
- Emergency incident training.
- First aid/CPR.
- Supervision.
- Evaluation and promotion process.

Artificial Wall Operations

- Selection criteria and approval process.
- Training curriculum.
- Operating procedures.

Facility

- Walls, anchors, landing surface.

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Benefits of the Accreditation Review Process

The CGA Peer Review and Accreditation Program is an effective method of quality assurance for the climbing gym industry. It provides the public with an assurance that a particular artificial wall facility and its operations have been reviewed by experienced climbing gym/facility operators and that it operates the programs it advertises within the Accepted Industry Practices that have been approved by the CGA membership.

The CGA believes that educating and reviewing members by accreditation reviews is preferable to local or federal government agencies imposing arbitrary licensing schemes. In the long term, lower accident rates and, subsequently, lower insurance rates should prevail among Accredited climbing gyms/facilities.

Setting up the Review Process

Once a climbing gym/facility has sent its prerequisite materials to the CGA/ORCA office and a review is scheduled, it must coordinate details of the review with the appointed review team leader. The appointed leader is responsible for planning and conducting a successful review and following up on recommendations made. Some of the specific preparations the leader makes are outlined below.

Preparing the Review Team

The leader should review the proposed team members with the reviewee. Any controversial team members should be replaced with mutually agreeable reviewers to ensure a collaborative atmosphere prevails during the review and sufficient expertise exists to conduct a quality review.

Qualifications to be a member of the Climbing Gym Association accreditation review team include:

- A minimum of 3 years' cumulative experience working in the climbing gym industry and/or working for a professional guiding service, preferably both.
- A minimum of 5 years' cumulative climbing experience, both indoors and outdoors.
- Individual or the organization by which the individual is employed is a current CGA member in good standing. (This requirement could be waived or granted gratis for AMGA reviewers.)
- A minimum of one year managing a climbing facility or climbing program.
- Ability to travel at least regionally.
- Willingness to sign a nondisclosure agreement and maintain absolute confidentiality regarding all information obtained in a review.

A new review team member will undergo an apprenticeship training session with experienced CGA review team members. A review team leader must have participated in at least one review as an assistant reviewer and received a positive performance review by the leader.

An applicant for a position on the CGA review team must submit the following to the CGA/ORCA office:

- Current resume.
- Letter to the CGA Peer Review Committee describing relevant experience (listed above) and skills and reason for wanting to become a reviewer.
- Written recommendation from a fellow CGA member regarding communication, organizational, and interpersonal skills.

The applicant must successfully complete a telephone interview with a Peer Review Committee member. The above qualifications and requirements are subject to the consideration and review of the CGA Peer Review Committee, which reserves the right to have final discretion on approval. These qualifications and requirements may be amended at any time by the Peer Review Committee.

The leader coordinates the dates and meeting time and place with the reviewee and the review team members. The length of review is determined by the number of activities to be reviewed. The reviewee and leader should choose a time when many activities will be in operation to permit team members to observe as much as possible and to meet with as many employees of the climbing gym/facility as they can.

The team leader and reviewee should discuss any issues or concerns for the team to be aware of and focus on. The reviewee usually knows its own safety and management issues and can save the review team time if these issues are made known from the beginning. There may be confidentiality issues that the review team will have to respect.

The team leader must know the travel plans for each team member and may be asked to help coordinate them.

Responsibilities of the Reviewee

The reviewee is responsible for the following items. The team leader will check to make sure they have been done.

The reviewee should inform their staff of the purpose and dates of the accreditation review. Staff should be encouraged to be open and candid in sharing their safety concerns with review team members.

The reviewee should assign a knowledgeable staff member to accompany the team. The staff member should be aware of the schedule and offer suggestions to the review team leader on how to best accomplish the goals of the review. The reviewee is also responsible for ensuring the review team has the opportunity to observe both the gym/facility's most experienced staff and the new employees. Finally, the reviewee must arrange and provide for the room and board and travel of the review team.

Conducting the Review

The reviewee's managers should meet with the team and present an overview and orientation to their facility. Because the goal is to learn as much as possible about the facility and its operations during the brief review period, the review team must talk to and observe as many staff as possible. The staff are the people with knowledge of actual safety management practices. The reviewers must learn how the staff operate in order to conduct a well-informed review.

The team leader is responsible for ensuring that all the review categories are covered. This may require matching particular expertise of the reviewers with topics of investigation.

All team members are encouraged to make written notes of their observations so that they are not forgotten.

Near the end of the review, the review team needs to re-group to compare notes before the final debriefing. The majority of the team must agree on all issues important enough to be designated as mandatory changes to achieve accreditation. The entire team will consider each review team member's concerns about safety.

The Final Debriefing

An hour or two should be set aside in a private location for the final debriefing between the reviewers and the reviewee managers. The team leader is responsible for planning and chairing the debriefing session.

The purpose of the final debriefing is to share the observations and recommendations of the review team. It is a conversation between the review team and the reviewee. New ideas are explained face-to-face so that no surprises appear in the final report. The team may wish to reword or withdraw certain recommendations after learning more about a particular subject in the debriefing.

Generally, the review team and the reviewee should be able to agree on reasonable recommendations to address the problems observed. The review team must be aware of their duty to recommend required changes, including closure or postponement of programs if this is deemed necessary.

The Final Report

The team leader incorporates ideas from all reviewers into a final report within 15 days of the end of the review. The climbing gym/facility must respond, either agreeing to, or giving a rationale for nonconcurrence with, the required changes. This written response must be made within 30 days of receiving the final report.

The gym/facility being reviewed must be given the latitude to address safety issues and ultimately decide on a solution for themselves. This will ensure that they are capable of improving their facility's safety management. A report that contains solutions generated by the review team can easily be accepted by the reviewees but does not indicate their ability to address the safety issues on their own. This is an important factor in writing the report. It is common to want to offer a solution for each safety concern; however, it is best not to limit the reviewee by offering a particular solution in the final report. It is preferable to briefly illustrate the concern and recommend that the reviewee evaluate a particular procedure or activity for improvement. This gives them the freedom to innovate their own solutions, perhaps even improving on the reviewer's suggestions to better suit their needs.

Broad criticisms and opinions that are not related to facts or observations should be avoided. For example, the report must not contain phrases such as, "The beginning lesson was totally unsafe." A better statement might be, "The review team observed belayers who had not been properly trained in belay techniques, instructors who were not supervising students effectively, etc." Candid opinions and judgments based on limited information may be expressed and clarified in the final debriefing; however, the report should contain the facts and observations and reasonable inferences from these.

When phrasing recommendations, consider what will be an acceptable response. If there are several satisfactory solutions to the problems identified, then give the reviewees some latitude and ownership in coming up with a solution that works best for them. It is appropriate in this instance to make a broad recommendation that states the problem and asks for a solution. Such a recommendation might be phrased as, for example, "Evaluate and upgrade protection techniques, layout, and equipment to reduce the risk of injury to climbing participants."

If only one response will be acceptable to the reviewers, then this specific course of action can be recommended. For example, "Pad the floor."

When disagreement exists over a recommendation, the review team leader and the reviewee should try to resolve the disagreement in a manner satisfactory to both parties. If resolution is not achieved, dispute resolution steps under "Process of Initial Review," on pages 9 and 10 should be followed.

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Topics for Reviews

The following categories represent a useful format for ensuring that most safety-related components of the organization are reviewed. These are guidelines, and some areas may overlap. The outline for review topics generally follows and reflects the Accepted Industry Practices of the CGA. A handbook on these practices is available from the CGA/ORCA office.

Access

- How is gym access controlled?
- What is the check-in procedure?
- What is the release-signing procedure?
- How is release signing handled for children?
- How are new users oriented?
- Who is allowed to climb?
- What are the age limits?
- How are all use limitations adequately enforced/monitored?
- How are rules clearly posted?
- How are observers/spectators handled?

Testing

- What proficiency testing is used for participants?
- What are the elements of each type of test given?
- How is testing measured?
- How is testing documented?
- How are records maintained?

Monitoring

- How is the climbing area monitored whenever open for use?
- How are rules enforced?

- What is the minimum/maximum number of monitors on duty?
- What written guidelines are available for monitors?
- How are monitors evaluated for being qualified and responsible?
- What are the policies for off-hour staff use?

Staffing

- How many levels of staff are employed?
- What standards are in place for hiring staff and how appropriate are they for the responsibilities required?
- What documentation is kept in staff files and what is its availability? (resume, first aid, recent training's, evaluations, etc.)
- What is the training and orientation plan for staff?
- What is the frequency of training sessions?
- How are training sessions documented?
- What are minimum staff and instructor qualifications?
- How many staff are full-time? part-time?

Management Systems

- What type of management structure is in place.
- What plan is in effect for managers and supervisors to monitor and address safety concerns?
- How effective is communication among managers and staff?
- What is the management review process to authorize new program activities?

Insurance

- What current liability insurance does the facility have for its operations?
- What is the level of coverage?
- What programs are covered?

Equipment & Maintenance

- What guidelines are on the wall for the equipment to be used? (Carabiners, toprope anchors, lead anchors, belay devices, etc.)

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- Who is responsible for selecting, distributing, and maintaining equipment?
- What are there guidelines for use of participants' personal gear?
- How is use of personal gear monitored?
- How is rented equipment kept in good condition and how is it stored?
- What are the guidelines for wall and equipment maintenance procedures?
- What is the documentation and retirement policy for equipment?
- What is the policy for rope inspection and replacement?
- What is the policy for lead equipment?

Walls, Anchors, and Landing Surfaces

- What type of landing surfaces are used and why?
- How have walls and anchors been engineered?
- How does the structure comply with CWIG standards? (including lead anchors, top rope anchors, etc.)
- How are belay anchors made adequate and properly maintained?
- What types of belay devices are there?
- How are participants trained and monitored in using these devices?

Operations Manual

- How current is the operations manual?
- What mechanism ensures the operations manual reflects current policies and procedures?
- How well are staff members acquainted with the manual?
- How well does the manual cover all facility operations and activities?
- How well does the manual accurately represent actual practices?
- What is the policy on drug and alcohol use by the staff?
- What is the accident /incident reporting procedure?

Program Activities and Safety

- How successfully are the activities following practices which protect participants from any reasonably foreseeable risk of harm?

- How appropriate is the instructor-to-participant ratio for the activities?
- How are participants properly briefed and progressively readied for the activity?
- How do you measure instructors/staff maturity and good judgment?
- How closely are procedures in the operations and /or instructor's manual reflected in practice?
- What is the policy for allowing participants to lead, and how is leading monitored?
- How consistent are anchors and belay procedures with current practices?
- How well are participants informed of the differences between indoor and outdoor climbing?

Emergency Procedures

- What has the program done to anticipate emergencies and make reasonable plans to deal with them?
- What are the guidelines for emergency procedures and response?
- What first aid equipment is kept on the site?
- What are your CPR/ first aid requirements for staff

Route Setting

- What are the route-setting guidelines?
- What are the qualifications and training for route setters?

Outdoor Programs (if applicable)

- What outdoor program activities do you offer?
- What is the accreditation status of your outdoor program?
- What are the written guidelines for emergency procedures for the outdoor program?
- How are proper land permits for access acquired?
- What current liability insurance does the outdoor program have?
- What written standards are in place for hiring staff for an outdoor program, and how appropriate are they to the responsibilities required?
- What are your CPR/ first aid requirements for outdoor program staff?

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Summary of Responsibilities During Accreditation Reviews

Review Team Leader

- Confirms dates with reviewee.
- Confirms and possibly helps to select review team members.
- Discusses issues for review with reviewee.
- Requests orientation materials from reviewee, and sends copies to review team members.
- Arranges the transportation and other logistics with reviewee (including agreeing on a mileage reimbursement amount for drivers).
- Designs the review schedule.
- Coordinates the actual review.
- Leads the final debrief.
- Writes the final report.
- Sends the final report to the review team members for feedback and approval.
- Sends the report to the executive director for approval.

Reviewee

- Sets dates with review team leader.
- Approves review team members.
- Provides all pertinent documents to CGA, then provides to review team leader past accreditation reports, if applicable, -annual safety reports -participant information packets -staff manual -job descriptions -staff training documentation - list of employees.
- Arranges logistics for the review.
- Assigns staff member to the review team to help facilitate the review process.
- Attends interviews.
- Attends the final debriefing.
- Responds to the final report.

Review Team Member

- Reviews materials of the facility and its programs.
- Arranges most economical transport to review site.
- Sends travel itinerary to review team leader.
- Takes notes on observations during review.
- Contributes to review process
- Contributes at final debriefing.
- Reviews draft of final report and informs team leader of approval and/or input.

Review Team Liaison Staff From Reviewee Facility

- Receives full briefing on review team visit, mission, needs and logistics.
- Serves as an advisor and guide to review team.
- Attends activities throughout entire review visit.

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Acknowledgments

The Climbing Gym Association Peer Review and Accreditation Program is based on the accreditation review program developed by the American Mountain Guides Association (AMGA). The AMGA program evolved from a safety review system used successfully since 1972 by the United States Outward Bound schools. A manual based on that system was written in 1988 by Ian Wade, former safety officer for Outward Bound USA and past president of the AMGA. It was revised in 1992 by Steven Young, AMGA executive secretary, and in 1995 by K.C. Baum, acting accreditation review director. In 1996, Peter Mayfield and Casey Newman, CGA Accreditation Committee and Board Members, used the AMGA manual as a basis for developing the CGA Peer Review and Accreditation Manual. They developed the CGA Peer Review and Accreditation Program with the support of the 1996/97 CGA Board Members. The CGA Board is grateful for the assistance and support of the AMGA. CGA members are encouraged to maintain close links with their local professional mountain guides.

CGA Peer Review & Accreditation Application

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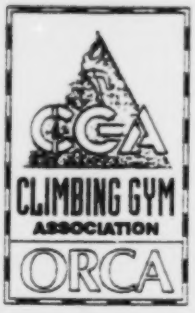
CGA Peer Review and Accreditation Application

Climbing Facility Information



Climbing Facility Name _____

Address _____

Telephone _____ Fax _____

Owner Name _____

Review Contact Name (if different) _____

Date Climbing Facility opened _____ Square Footage of Facility _____

Number of Employees _____

Do you have an outdoor program? ❒ Yes ❒ No

Peer Review and Accreditation Date

Please note your preferred dates for the CGA Review of Operations. Your preferred date should be at least 60 days after today's date. The review process normally takes two full days.

1st Choice: Week of _____ 2nd Choice: Week of _____

Peer Review and Accreditation Fee

A $250 non refundable application fee is required with each application. Non member applicants pay a $375 application fee. The peer review cost includes travel expenses and the review team fees. The cost is billed to the reviewee in 2 installments. The travel expenses, 50% of the team leader fee, and the review team assistant fee are billed to the reviewee when all expenses have been submitted by the review team to the ORCA office. The balance of the review team leader fee is billed once the review report has been forwarded to the reviewee. All invoices are due and payable upon receipt. For additional information on fees refer to the Peer Review and Accreditation Manual.

Please include a nonrefundable deposit of $250 with this application. You will be invoiced for the balance.

❒ Check enclosed
Payable to ORCA

❒ Visa/Mastercard Number: _____

Expiration Date: _____ Cardholder Name: _____

Applicant Signature: _____

Applicant Name (please print): _____ Today's Date: _____

Mail to: ORCA, PO Box 1319 Boulder, CO 80306 Phone: 303-444-3353 Fax: 303-444-3284

Please include:
- ❒ this completed form.
- ❒ three copies of brochures and/or other materials describing the scope of services.
- ❒ proof of liability insurance.
- ❒ a signed copy of the CGA member pledge.
- ❒ a $250 deposit check payable to ORCA, or credit card information

COMPUTERIZED PROGRAMS FOR YOUR TRIPS, CLASSES & EQUIPMENT RENTAL

Created for Macintosh Computers with FileMaker Pro

by

Georgi Baird
Recreation Services Outdoor Program
Illinois State University
Normal, Illinois

TRIP & CLASS REGISTRATION

As the Outdoor Program rapidly moved into the computer age, we saw a need for computerized trip, class, and equipment rental programs. For years we watched our secretarial staff and equipment rental attendants frantically fill out information sheets, cumbersome receipts, and contracts. In addition, we were wasting reams of paper and valuable information that was too time consuming to compile. As we looked at solutions, our first option was to investigate some of the computer programs that had already been developed by other schools or businesses. It did not take long to determine that the programs available were too specific, inflexible, or complicated to permit shaping them to fit our Program's specific needs.

Being somewhat computer literate, and having the good fortune to have a computer guru for a husband, we looked at options for developing our own programs. We wanted a database that was flexible, programmer friendly, and user simplistic, so we decided to use FileMaker Pro. I started developing my own computer program for the registration of trip and class participants while we watched and waited for something better to come along in the marketplace. After sporadically working on the program for over a year, a situation develop requiring all trip and class registration to take place in another building, a mile away from the Outdoor Program Office. This move was going to create huge problems for us in relationship to monitoring trip and class sign up, having rosters available, contacting people, etc. Since this would not occur until September, I stepped up my work on the program and had it basically done in July. I transferred the trip and class program to the computers at the Outdoor Program Office and we began testing, using all the possible weird scenarios we could think of. After making several changes, writing a procedures manual, and training staff, we implemented the program at the beginning of fall semester. To my immense delight, the program has now been used for an entire semester with exceptionally few problems. Considering that approximately 40 student employees work at the registration counter during any given week, this record is pretty astonishing.

Another terrific feature of FileMaker, other than it is a database, user friendly and extremely flexible, is that it can have multiple users. Using the "Host" mode, you can connect other computers at various locations to the same program. This was perfect for our situation. This feature allows us to monitor our sign up status, print participant lists for trip coordinators and class instructors, obtain refund information and produce daily financial statements for our bookkeeping department, all from the Outdoor Program Office. Basically the "Host" mode enables us to have access to any information that is on the original program. This feature also enables me to continually upgrade the program and improve it. This fall, the "Host" mode will enable us to have trip and class registration available simultaneously in two different locations on campus.

How Does It Work

Since FileMaker Pro is a database program, I created "layouts" to enter all the pertinent trip and class information. All information entered is held and displayed (or not displayed) on each layout in whatever manner and design I choose. The program can accommodate virtually any number of trips and classes each semester. There are currently a total of 38 layouts using the information in various customized designs to account for all the assorted ways we need to use the information. Some of the layouts are:

1. Trip and Class Participant Registers for viewing
2. Participant Receipts
3. All trip and class information (description, price, date, location, etc. for advertising in our semesterly magazine
4. An additional cost layout containing 48 different fee adjustments which the program adds in automatically according to trip and participant type, and trip length
5. Vehicle and Transportation Requirements
6. One page flyer advertising for both trips and classes
7. One page reference listing of ALL trip and class prices -- including student, faculty/staff, and community
8. Listing of individuals signed up for each trip and class, and how many openings are still available
9. Daily and semester deposit reports
10. Trip and Class participant rosters for trip coordinators and instructors
11. Refund Information for the bookkeepers
12. A computer screen for the person working the registration counter to read ALL important information to the individual signing up

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We have a variety of charges based upon an individual's affiliation with the University, the length of the trip, and the type of trip. When the "Student Cost" is entered, the program automatically calculates the appropriate fee for all categories. Many other features are also automated through the use of calculating fields, summary fields, or scripts. For instance, when the maximum number of participants have signed up, a message is flashed up showing that the trip or class is full. The Cancellation/Refund date is automatically entered based on the Mandatory Meeting date; you may enter dates on receipts at the click of a button; income for each trip or class is calculated and summarized showing daily and semester totals, etc.

Note: Scripting means you are using the built-in language of the program to write mini programs that will perform specific tasks, functions, or duties.

The program has a "relationship" with another file, The Customer Database. Once a person signs up for a trip or class, the majority of their information is stored in the Customer Database. When they register for another trip or class, entering their social security number will automatically drop their other information in.

Navigation is made simple and easy with "buttons." Buttons are designed through the use of scripts. You write the script, then attach it to a button. Just clicking the appropriate button takes you to the desired trip or class register, the participant, or back to the beginning. Clicking the participant's receipt button prints their receipt out then returns you back to the register where you are ready to enter another participant.

The program is designed to automatically create a backup file EVERY day when the program is closed or shut down. If something drastic happens, you have a full week's backup information, plus your hard copy receipts.

The receipt is a preprinted NCR form with our Mandatory Meeting Policy, Drug and Alcohol Policy, and Cancellation Policy on the front. The Informed Consent and The Common Adventure Statement are printed on the back of the receipt. Participants will read and sign the appropriate information and receive a copy with the important trip or class information on it.

To run this program effectively, you will need *FileMaker Pro 4*, a1024 x 768 pixel screen, a Macintosh Computer with 16 to 32 megabytes of memory, and a minimum of at least 50 megabytes free hard disk space, preferably more. You also need at least a 17" monitor and a dot matrix printer.

TRIP DATA ENTRY SHEET

TRIP # 2 Trip Date Saturday, Feb 7, 1998 # of Trip Days 1 SPECIAL TRIP INFO

Sign-up Jan 12- Feb 5, 4:30 PM Planning Meet Date none Time

TripType DOWNHILL SKI Place 220 N Main, Rec Services Bldg

Location Alpine Valley, WI Coordinators: Extended Trips Coord. Payment

1 [illegible] 2 Chris Conley 868-9745

Account Number 51-278-0808 (ALL trip fees 0808) Max # Part. 10 Refund Date Feb 5, 4:30 PM

Trip Leaves Date Sat. Feb. 7 Time 6:00 a.m.

Trip Returns Date Sat. Feb. 7 Time 10:00 p.m.

Trip Leaves From/Returns To 220 N Main, Rec Services Bldg

If you cancel, to receive a refund you must find a substitute by NOON:

NOTE1: If it is a F/S only trip, click the Faculty/Staff Only box Then enter F/S only Cost. Proceed to NOTE 2: Click here for F/S Only Trip

NOTE 2: If it is a F/S only trip, "X" the Faculty/Staff Only box Then "X" the Extra Chrg box, and enter the appropriate amount for F/S Guest under Extra Charges.

F/S Only Cost

COSTS

TOTAL STUDENT COST	$42.00	$61.00
At Sign up	$42.00	$61.00
Deposit if applicble	____	due by
Balance of	____	____
CASH @ Plan Meet		
F/S Only Cost		
TOTAL COST FOR F/S ONLY TRIP		

MARK ONE BOX ONLY

- Faculty/Staff Only ☐
- ALL 1 day ☐
- 2 to 3 day trips ☐
- 4 to 7 day trips ☐
- 8 to 10 day trips ☐
- 11 to 13 day trips ☐
- 14 or more days ☐

MARK ALL THAT APPLY

- Canoe 1 day ☐
- 2 to 3 day bkpk ☐
- 4 or more days bkpk ☐
- 1 day, weekday XC ski ☐
- ANY weekend XC or 2-3 weekday ☐
- 4 days or more XC ski pkg ☐
- Extra Chrg ☐

Any Extra or Additional Equip. or Misc. Charges

- Trip Student Guest Xtra Chrg
- Trip F/S Xtra Chrg
- Trip F/S Guest Xtra Chrg
- TRIP Comm Xtra Chrg

You MUST "X" Extra Charge Box for these prices to be included

TRIP FEE COVERS--- FOR ALL TRIPS EXCEPT ——— DOWNHILL SKI TRIPS

- [X] Transportation
- [ ] Group Equipment
- [ ] Food
- [ ] Backpack Rental
- [X] Ski Rental
- [ ] Camping cost
- [ ] Hotel Room
- [X] Other lift ticket

Downhill Ski Trips Include

Pkg. A [X] Package A includes: Transportation and lift ticket: $42.00

Pkg. B [X] Package B includes: Transportation, lift ticket, and ski package cost: $61.00

Downhill Ski Trip Cancellation/Refund Date Feb 5, 4:30 PM

Computer Calculated Costs for Other Categories

Stud Cat Cst	$42.00	$61.00
FS Cst	$42.00	$61.00
FS Gst Cst	$42.00	$61.00
Comm Cst	$42.00	$61.00

If any these categories do NOT need filled out for this trip, click N/A

Waist/ Jacket	Height	Shoe
N/A	N/A	N/A

ADDITIONAL TRIP COST ESTIMATES

[X] Food	$5.00	[ ] Road Tolls	
[ ] Camping Fees		[ ] Park Entry Fees	
[ ] Personal Equipment		[X] Other ski lesson if wanted	$11.50
		TOTAL ESTIMATED ADDITIONAL COST	$16.50

Secretary Notes or Alerts

TRIPS OFFERED TO ALL PARTICIPANTS AT THE SAME FEE, like Downhill Skiing, ENTER HERE:

Option $42.00 Pkg. A includes transportation & lift ticket--ask which package they want

Option $61.00 Pkg. B includes transportation, lift ticket, & skis --ask which package they want

Sourcebook Information

TRIP # 1 X-C SKIING & CAMPING
Black River State Park, WI

February 6-8, 1998

Sign-up Jan 12- Feb 2, 12 noon

Planning Meeting Mon, February 2, 9:00 pm

Cost: 37.00 Includes: Transportation – Group Equipment – – Backpack Rental – X-ski Rental –

Participants: 10

Coordinators: Chris Ray 862-0849 Pat Ray 862-0849

Is being stuck indoors driving you NUTS? Then come with us to take in the beautiful and serene backcountry splendor of Black River State Forest. We will be enjoying a weekend of backpacking on Nordic skies over Wisconsin's snow-covered rolling hills. So be ready for three days of excitement and an early departure of 6:00 a.m.

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Additional Trip Charges for Student Guests, Faculty/Staff Members, Faculty/Staff Guests & Community Members--The appropriate amount is added for type of trip

STUDENT GUEST ADDITIONAL COST		FACULTY/STAFF ADDITIONAL COST		FACULTY/STAFF GUEST ADDITIONAL COST		COMMUNITY MEMBER ADDITIONAL COST	
Bkpk 2 to 3 day SG	0.00	Bkpk 2 to 3 day FS	1.75	Bkpk 2 to 3 day FS Gst	1.75	Bkpk 2 to 3 day Comm	3.50
Bkpk 4 to 7 day SG	0.00	Bkpk 4 to 7 day FS	3.50	Bkpk 4 to 7 day FS Gst	3.50	Bkpk 4 to 7 day Comm	7.00
Ski Pkg 1 day SG	0.00	Ski Pkg 1 day FS	2.50	Ski Pkg 1 day FS Gst	2.50	Ski Pkg 1 day Comm	4.50
Ski Pkg 2 to 3 day SG	0.00	Ski Pkg 2 to 3 day FS	6.00	Ski Pkg 2 to 3 day FS Gst	6.00	Ski Pkg 2 to 3 day Comm	10.00
Ski Pkg 4 to 7 day SG	0.00	Ski Pkg 4 to 7 day FS	12.00	Ski Pkg 4 to 7 day FS Gst	12.00	Ski Pkg 4 to 7 day Comm	20.00
Canoe 1 day SG	1.00	Canoe 1 day FS	4.00	Canoe 1 day FS Gst	5.00	Canoe 1 day Comm	6.00
TRIP 1 day SG	0.00	TRIP 1 day FS	1.00	TRIP 1 day FS Gst	1.00	TRIP 1 day Comm	1.00
TRIP 2_3 day SG	2.00	TRIP 2_3 day FS	8.00	TRIP 2_3 day FS Gst	10.00	TRIP 2_3 day Comm	12.00
TRIP 4_7 day SG	3.00	TRIP 4 7 day FS	12.00	TRIP 4_7 day FS Gst	15.00	TRIP 4_7 day Comm	18.00
TRIP 8_10 day SG	4.00	TRIP 8_10 day FS	16.00	TRIP 8_10 day FS Gst	20.00	TRIP 8_10 day Comm	24.00
TRIP 11_13 day SG	5.00	TRIP 11 13 day FS	20.00	TRIP 11_13 day FS Gst	25.00	TRIP 11_13 day Comm	30.00
TRIP 14 day SG	6.00	TRIP 14 day FS	24.00	TRIP 14 day FS Gst	30.00	TRIP 14 day Comm	36.00

Workshop Participant List

31 Date/s: Sept 22, Mon Sept 21 Time: Mon & Wed evenings 6:30-8:30 p.m. & Wed Sept 28, Sun Sun afternoon 1:00-5:00 p.m.

WORK SHOP: RAPPELLING Location: Mon,Wed at 220 N. Main--Sun at Bancel Tower on Adelaide behind Fire

Sign-up Dates: Aug. 25-Sept. 18 Substitute/Refund Date: Thurs. Sept. 18

Workshop Trip Date/s (if any) Trip Location (if any)

Departure Time Return Time

Base Fee $15.00 + Equip Charge (If Any) Total $15.00 Other Fee $0.00 (eg. Higher F/S or Comm. or lower Coordinator fee)

Deposit (If Any) Balance due by

Special WORKSHOP Notes

AN INFORMED CONSENT STATEMENT MUST BE SIGNED.

	First Name	Last Name	Age	ADDRESS	Guest of ☆ registered Rec	Zip	Phone	SS#	Registd Another Status	List	Wat	Ht	Shoe	Need Ride	Can Provide	Additional Persons Signed Up	Cancelled
1	HEATHER	ALGER	18	ATKIN 657 NORMAL IL		61761	436-1706	343-80-6339	S	N	30	N/A	N/A				
2	MARC	TIRITILLI	32	801 S UNIVERSITY APT #9 NORMAL IL		61761	452-1774	320-72-3442	S	N		N/A	N/A		Y		
3	KEVIN	DEAN	26	1711-B KING DRIVE NORMAL IL		61761	862-1567	347-66-8417	C	Y		N/A	N/A	N	N	TARA DEAN	
4	TARA	DEAN	24	1711-B KING DRIVE NORMAL IL	3	61761	862-1567	332-64-1699	S	N		N/A	N/A	N	N		
5	BRIAN	ELDRIDGE	22	1512 N. LEE SUITE B BLOOMINGTON IL		61701	829-7027	345-64-9871	F	N		N/A	N/A				
6	KEN	CRAWFORD	18	109 JEFFERSON HOUSE NORMAL IL		61761	436-9228	327-80-5156	S	N		N/A	N/A	N			
7	ERIC	SCHMUTTENMAE	20	206 E. MULBERRY #12 NORMAL IL		61761	451-9221	331-66-8929	O	N		N/A	N/A	N	N/A		
8	JODY	MABERRY	22	116 W. CHERRY #10 NORMAL IL		61761	452-2364	355-78-6706	O	N		N/A	N/A				
9	JOEL	HEIDEMANN	19	1108 WILKINS NORMAL IL		61761	436-4103	357-78-9414	O	N		N/A	N/A				
10	AMY	ARNOLD	18	1003 HEWITT HALL NORMAL IL		61761	436-1196	333-68-4485	S	N	32	N/A	N/A				
11		MAXIMUM 10		MAXIMUM 10 PARTICIPANTS				100-00-0010				N/A	N/A				
12												N/A	N/A				
13												N/A	N/A				
14												N/A	N/A				
15												N/A	N/A				
16												N/A	N/A				

Total Currently Signed Up 10

Total People Who Have Signed Up (Includes those who have cancelled & found a substitute) 10

Waiting List

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TRIP & CLASS LIST

TOTAL PARTICIPANTS SIGNED UP AS 12/3/97

Number	Trip/Class Name	Date	Location	SignUp Dates	Part	Tot	Coordinators
1	BIKING	Sept 13 Sat.	Lake Shore Drive	Aug 25-Noon Sept 10	10	2	Orc Perry
2	HIKING--Faculty/Staff	Sept 14 Sun	Allerton Park	Aug 25-Noon Sept 11	16	6	Doug McCarty
3	CANOEING/CAMPING	Sept. 12-14, Fri.-Sun.	Meramec River	Aug 25-Noon Sept 9	16	7	Chris Conley
4	CAVING/CAMPING	Sept. 20-21, Sat.-Sun.	Illinois Caverns	Aug 25-Noon Sept 15	10	10	Bob Hudak
5	HIKING	Sept 20 Sat	Starved Rock	Aug 25-Noon Sept 16	10	6	Joel Keene
6	FISHING	Sun. Sept 21	LAKE MICHIGAN	Aug 25-17 (4 p.m.)	6	2	Joel Keene
7	CANOEING/CAMPING	Sept. 26-28, Fri.-Sun.	Current River	Aug 25 - Noon Sept 17	16	1	Todd Henry
8	HIKING/CAMPING	Sept. 27-28, Sat.-Sun.	Devil's Lake State	Aug 25 - Noon Sept 18	10	9	Joel Keene
9	HIKING/CAMPING	Oct. 4-5, Sat.-Sun.	Effigy Mounds	Aug 25 Sept 22	10	6	Chris Williams
10	FISHING & CAMPING	Oct. 3-5, Fri.-Sun.	Loud Thunder	Aug 25 Sept 23	10	1	Orc Perry
11	CANOEING--Faculty, Staff	Oct. 12 Sun	Vermilion River	Aug 25 Sept 30	16	5	Doug McCarty
12	BACKPACKING	Oct. 10-12, Fri.-Sun.	Black River State	Aug 25 Sept 29	10	10	Pat Ray
13	HIKING/CAMPING	Oct. 10-12, Fri.-Sun.	Lake Malone	Aug 25 Sept 30	10	7	Nancy Slowik
14	HIKING/CAMPING	Oct. 17-19, Fri.-Sun.	Garden of the	Aug 25 Oct 6	10	10	Mary Ann Dorko
15	CANOEING/CAMPING	Oct. 17-19, Fri.-Sun.	Jack's Fork River	Aug 25 Oct 8	10	10	Joel Keene
16	BACKPACKING	Oct. 24-26, Fri.-Sun.	Land Between the	Aug 25 Oct 13	10	10	Pat Ray
17	HIKING/CAMPING	Oct. 25-26, Sat.-Sun.	Mississippi	Aug 25 Oct 14	10	6	TBA
18	HIKING	Nov. 2 Sun	Matthiessen State	Aug 25 Oct 20	10	9	Mindy Mculinic
19	CAVING	Nov. 1 Sat.	Illinois Caverns	Aug 25 Oct 21	10	10	John Walther
20	BACKPACKING	Dec. 30 Jan. 10	Big Bend National	Aug 25 Nov 18	6	6	Dave Wells
30	Indoor ROCK CLIMBING Sec. A	Tuesday, Sept. 23	Upper Limits Rock	Aug 25-Sept 18			Upper Limits Sta
31	RAPPELLING	Sept 22, Mon Sept 24, Wed Sept 26, Sun	Mon./Wed. at 220	Aug 25 Sept 18	10	10	Jim Rogers
32	PISTOL SHOOTING sec. A	Thurs., Sept. 25	Bloomington Gun	Aug 25 Sept 22			
33	Skydiving - The First Jump--A	Saturday, Sept 27	25 minutes from	Aug 25 Sept 24			Ill. Valley
34	Skydiving - The First Jump--B	Saturday, Sept 27	25 minutes from	Aug 25 Sept 24			Ill. Valley
35	ARCHERY	Tuesdays, Sept. 30, Oct. 7, 14, 21	Smiley's Sports	Aug 25- Sept 26			Spencer Gore
36	SKEET SHOOTING	Sat., Oct. 4	Bloomington Gun	Aug 25-Oct. 1			
37	BACKPACKING	Sat. Oct. 11	220 N Main, Rec	Aug 25-Oct 8			Jim Rogers
38	Indoor ROCK CLIMBING Sec. B	Sat., Oct. 18	Upper Limits Rock	Aug 25-Oct. 15			Upper Limits Sta
39	PISTOL SHOOTING Sec. B	Sat., Oct. 18	Bloomington Gun	Aug 25-Oct. 15			
40	PAINTBALL	NOT SCHEDULED THIS SEMESTER	NOT SCHEDULED				
41	THERAPEUTIC MASSAGE--A	Wed., Oct. 22	220 N. Main, Rec	Aug 25-Oct. 17			
42	THERAPEUTIC MASSAGE--B	Wed., Oct. 22	220 N. Main, Rec	Aug 25-Oct. 17			
43	WINTER CAMPING	Mon., Oct. 27	220 N Main, Rec	Aug 25-Oct. 23			Jim Rogers
44	NATURE PHOTOGRAPHY	Wed., Nov. 5 & 12	220 N Main, Rec	Aug 25-Oct. 31			Mr. Robert Shaw
45	FLY FISHING--A	Fri. Nov. 14 & Sat. Nov. 15	Fri. @ Rec	Aug 25-Nov. 7			Tom Yokum and
46	FLY FISHING--B	Fri. Nov. 14 & Sat. Nov. 15	Fri. @ Rec	Aug 25-Nov. 11			Tom Yokum and
47	Indoor ROCK CLIMBING Sec. C	Sun. Nov. 16	Upper Limits Rock	Aug 25- Nov. 12			Upper Limits Sta
48	MAP & COMPASS	Mon. Nov. 17 & 24	220 N Main, Rec	Aug 25-Nov. 12			Georg Baird
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Grand Total Signed Up 220

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TRIP & CLASS DEPOSITS FOR 11/20/97

Trips are #1-29
Workshops are #30-55

Trip or Class Info	TRIP DEPOSITS 11/20/97	CLASS DEPOSITS 11/20/97
Trip or Class # 1 BIKING Lake Shore Drive Sept. 13, Sat.	Trip 0808 0.00	Class 0312 0.00 0808 0.00 Sem Tot 0312 0.00 Sem Tot 0808 0.00 Sem Tot 0.00
Trip or Class # 3 CANOEING/CAMPING Meramec River Sept. 12-14, Fri.-Sun.	Trip 0808 0.00	Class 0312 0.00 0808 0.00 Sem Tot 0312 0.00 Sem Tot 0808 0.00 Sem Tot 0.00
Trip or Class # 5 HIKING Starved Rock, Ogleshy Sept. 20, Sat.	Trip 0808 0.00	Class 0312 0.00 0808 0.00 Sem Tot 0312 0.00 Sem Tot 0808 0.00 Sem Tot 0.00
Trip or Class # 7 CANOEING/CAMPING Current River Sept. 26-28, Fri.-Sun.	Trip 0808 0.00	Class 0312 0.00 0808 0.00
Trip or Class # 9 HIKING/CAMPING Effigy Mounds Nt'l Oct. 4-5, Sat.-Sun.	Trip	Class 0312 0.00
Trip or Class # 1 1 CANOEING--Faculty Staff Vermillion River Oct., 12, Sun.	Trip	Class 0312 0.00
Trip or Class # 1 3 HIKING/CAMPING Lake Malone State Oct. 10-12, Fri.-Sun.	Trip	Class 0312 0.00
Trip or Class # 1 5 CANOEING/CAMPING Jack's Fork River Oct. 17-19, Fri.-Sun.	Trip	Class 0312 0.00
Trip or Class # 4 3 WINTER CAMPING 220 N Main, Rec Mon., Oct. 27	Trip 0808 0.00	Class 0312 0.00 0808 0.00
Trip or Class # 4 5 FLY FISHING--A Fri. @ Rec Services Fri., Nov. 14 & Sat.,	Trip 0808 0.00	Class 0312 0.00 0808 0.00 Sem Tot 0312 0.00
Trip or Class # 4 7 Indoor ROCK CLIMBING Sec. C Upper Limits Rock Gym Sun. Nov. 16	Trip 0808 0.00	Class 0312 0.00 0808 0.00
Trip or Class # 5 5	Trip 0808 0.00	Class 0312 0.00 0808 0.00

Trip or Class Info	TRIP DEPOSITS 11/20/97	CLASS DEPOSITS 11/20/97
Trip or Class # 2 HIKING--Faculty/Staff Allerton Park Sept. 14, Sun.	Trip 0808 0.00	Class 0312 0.00 0808 0.00 Sem Tot 0312 0.00 Sem Tot 0808 0.00 Sem Tot 0.00
Trip or Class # 4 CAVING/CAMPING Illinois Caverns Sept. 20-21, Sat.-Sun.	Trip 0808 0.00	Class 0312 0.00 0808 0.00 Sem Tot 0808 0.00 Sem Tot 0.00
Trip or Class # 6 FISHING LAKE MICHIGAN Sun., Sept. 21	Trip 0808 0.00	Class 0312 0.00 0808 0.00 Sem Tot 0312 0.00 Sem Tot 0808 0.00 Sem Tot 0.00
Trip or Class # 8 HIKING/CAMPING Devil's Lake State Park Sept. 27-28, Sat.-Sun.	Trip 0808 0.00	Class 0312 0.00 0808 0.00
Trip or Class # 1 0 FISHING & CAMPING Loud Thunder Forest Oct. 3-5, Fri.-Sun.	Trip 0808 0.00	Class 0312 0.00 0808 0.00
Trip or Class # 1 2 BACKPACKING Black River State Oct. 10-12, Fri.-Sun.	Trip 0808 0.00	Class 0312 0.00 0808 0.00
Trip or Class # 1 4 HIKING/CAMPING Garden of the Gods Oct. 17-19, Fri.-Sun.	Trip 0808 0.00	Class 0312 0.00 0808 0.00
Trip or Class # 1 6 BACKPACKING Land Between the Oct. 24-26, Fri.-Sun.	Trip 0808 0.00	Class 0312 0.00 0808 0.00
Trip or Class # 4 4 NATURE PHOTOGRAPHY 220 N Main, Rec Wed., Nov. 5 & 12	Trip 0808 0.00	Class 0312 0.00 0808 0.00 Sem Tot 0312 50.00 Sem Tot 0808 0.00 Sem Tot 50.00
Trip or Class # 4 6 FLY FISHING--B Fri. @ Rec Services Fri., Nov. 14 & Sat.,	Trip 0808 0.00	Class 0312 0.00 0808 0.00 Sem Tot 0312 0.00 Sem Tot 0808 0.00 Sem Tot 0.00
Trip or Class # 4 8 MAP & COMPASS 220 N Main, Rec Mon., Nov. 17 & 24	Trip 0808 0.00	Class 0312 0.00 0808 0.00 Sem Tot 0312 0.00 Sem Tot 0808 0.00 Sem Tot 0.00

DAILY TOTALS					
Today's Total 0808TRIPS	Today's Total 0808Classes	Today's Total 0808 Trips/Classes	Today's Total 0312 Classes	(Today's Class Total Recpts 0808 & 0312)	TODAY'S TOTAL ALL RECEIPTS
0.00	0.00	0.00	0.00	$0.00	$0.00

SEMESTER TOT 0808 TRIPS	SEMESTER TOT 0808 Classes	SEMESTER TOT 0808 Trips & Classes	Semester Total 0312 Classes	TOTAL SEMESTER RECEIPTS 0808 & 0312
3350.50	0.00	3350.50	2380.00	$5,730.50

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VEHICLE NEEDS

TRIP & CLASS LISTING: 12/4/97 Trip & Class List w/Vehicle Needs

Num	Trip/WS Name	Date	Plan Meeting	Location	Student Cost	SignUp	Coordinators		Transportation 1	Transportation 2
1	X-C SKIING & CAMPING	February 6-8 1998	Mon. February 2	Black River State Park, WI	$37.00	Jan 12- Feb 2, 12 noon	Chris Ray 862-0849	Pat Ray 862-0849	U-Van (8)	Box Trailer
2	DOWNHILL SKI	Saturday, Feb 7, 1998	none	Alpine Valley, WI		Jan 12- Feb 5, 4:30 PM	Bob Hudak 452-9894	Chris Conley	U-Van (8)	
3	HIKING	Sunday, February 8	Tuesday, Feb 3	Starved Rock State Park	$7.25	Jan 12- Feb 3, 12 noon	Dave Wells (309)	Amy Arnold 439-1195	U-Van (8)	
4	X-C SKIING	Tuesday, Feb 10	Mon. Feb 9	Moraine View State Park, IL	$12.75	Jan 12- Feb 9, 12 noon	Georg Baird	Jim Rogers 452-6833	U-Van (8)	
5	DOWNHILL SKI	Saturday, Feb 14	none	Devil's Head, WI		Jan 12- Feb 12, 4:30 PM	Chris Ray 862-0849	Renae Smith	U-Van (8)	
6	HIKING	Saturday, Feb 14	Tuesday, Feb	Matthiessen State Park, IL	$7.25	Jan 12- Feb 10	Pete Daniel wk2	Chris Conley	U-Van (8)	
7	X-C SKIING	Sunday, Feb 15	Wed Feb 11	Parklands Nature Preserve, IL	$15.25	Jan 12- Feb 11, 12 noon	Georg Baird	Jennifer Scites	U-Van (8)	
8	CAVING	Saturday, Feb 21	Tuesday, Feb	Illinois Caverns, IL	$9.25	Jan 12- Feb 17, 12 noon	John Walther	Jennifer Scites	U-Van (8)	
9	X-C SKIING	Saturday, Feb 21	Wed. Feb 18	Jubilee College State Park, IL	$15.25	Jan 12- Feb 18, 12 noon	Jim Rogers 452-6833	Chris Williams	U-Van (8)	
10	MOUNTAIN BIKING	Feb 27- March 1	Tuesday, Feb	Land Between the Lakes, KY	$25.50	Jan 12- Feb 19, 4:30 pm	Morgan Phillips	Pat Ray 862-0849	U-Van (8)	
11	WINTER CAMPING	Friday, March 6-15	Thurs. Feb 26	Yellowstone Nat'l Park, Wyoming	$260.50	Jan 12- Feb 25, 4:30 pm	Jim Rogers 452-6833	Georg Baird	U-Van (8)	Box Trailer Big Red
12	BACKPACKING	Sun. March 9-15	Wed. Feb 25	Gila Wilderness	$158.50	Jan 12- Feb 24 4:30	Dave Wells	Renae Smith	U-Van (8)	Box Trailer Old
13	HIKING/CAMPING	March 27-29	Wed March 18	Clifty Falls State Park, IN	$21.25	Jan 12- Mar 17, 4:30 pm	Kristen Davit	Eric Schmutzelmaier	U-Van (8)	
14	HIKING	Sat March 28	Thurs. Mar 19	Starved Rock State Park, IL	$7.25	Jan 12- Mar 18, 4:30 pm	Mindy Mezonnich	Tony Eckert	U-Van (8)	
15	CANOEING	Sunday, March 29	Mon March 16	Middle Fork of Vermilion River	$12.25	Jan 12- Mar 18, 12 pm	Jose Huerta 451-9087	Jennifer Scites	U-Van (8)	A1 Mini Van
16	HIKING/CAMPING	Fri-Sun Apr 3-5	Tue March 24	Bell Smith Springs	$21.25	Jan 12- Mar 23, 4:30 pm	Georg Baird	Jennifer Scites	U-Van (8)	
17	HIKING/CAMPING & HORSEBACK RIDING	Fri-Sun Apr 4-5	Wed Mar 25	Turkey Run and Shades	$28.25	Jan 12- Mar 24, 4:30 pm	Nancy Sloan	Jennifer Smith	U-Van (8)	
18	WHITEWATER RAFTING/CAMPING	Fri-Sun April 10-12	Wed April 1	Peshtigo River, WI	$44.50	Jan 12- Mar 31, 4:30 pm	Jim Rogers 452-6833	Georg Baird	U-Van (8)	A1 Mini Van
19	WHITEWATER CANOEING	Saturday April 11	Thurs April 2	Big Pine Creek, Indiana	$12.25	Jan 12- April 1, 4:30 pm	Dave Wells (309)	Joe Heidelmann	U-Van (8)	A1 Mini Van
20	HIKING/CAMPING	Fri- Sun April 17-19	Wed April 8	Yellow River State Forest &	$21.25	Jan 12- April 7, 4:30 pm	Kristen Davit	Dave Lukas 439-6103	U-Van (8)	
21	CANOEING	Sat April 18	Thurs April 9	Salt Fork of the Vermilion, IL	$12.25	Jan 12- April 8, 4:30 pm	Georg Baird	Todd Henry 809-2782	U-Van (8)	A1 Mini Van
22	CANOEING/CAMPING	Fri- Sun April 24-26	Wed April 15	Current River, MO	$33.00	Jan 12- April 14, 4:30 pm	Dave Wells (309)	Jody Mastarny	U-Van (8)	A1 Mini Van
23	WHITEWATER RAFTING/CAMPING	Fri-Sun April 24-26	Tues April 14	Peshtigo River, WI	$44.50	Jan 12- April 13, 4:30 pm	Jim Rogers 452-6833	Chris Williams	U-Van (8)	A1 Mini Van
24	HORSEBACK RIDING	Wed April 29	Mon April 27	Moraine View State Park, IL	$15.00	Jan 12- April 26, 4:30 pm	Chris Williams		U-Van (8)	
25	BACKPACKING	Sun May 10- Wed May 20	Mon April 27	Dark Canyon Wilderness Area, Utah	$190.50	Jan 12- April 26, 4:30 pm	Dave Wells (309)	Joe Heidelmann	U-Van (8)	Box Trailer
26	CANOEING/CAMPING	Sun May 10- Sat May 16	Tue April 28	Buffalo River, Arkansas	$97.50	Jan 12- April 27, 4:30 pm	Georg Baird	TBA	U-Van (8)	
27	X-C SKIING	Sunday, January 25	Wed. Jan 21	Allerton Park, IL	$22.25	Jan 12- Jan 21, 12 noon	Georg Baird	Doug McCarty	U-Van (8)	
28	HIKING	Sunday March 22	Tues. March 17	Moraine View State Park, IL	$8.25	Jan 12- March 18,	Doug McCarty	Sarah Meguth	U-Van (8)	
29	CANOEING	Sat. May 23	Wed May 20	Salt Fork of the	$17.25	Jan 12- May 19, 4:00 pm	Jim Rogers	Georg Baird	U-Van (8)	A1 Mini Van
30	CANOEING	Sat June 13	Wed June 10	Middle Fork of the	$17.25	Jan 12- June 9, 4:30 pm	Jim Rogers	Georg Baird	U-Van (8)	A1 Mini Van
31	WHITEWATER RAFTING	Oct. 1-4, Fall 1998		The Gauley River, West Virginia		Jan. 12-Sept.	Jim Rogers	Chris Williams	RENTAL BUS	
32	WHITEWATER RAFTING	Oct. 1-4, 1998		The Gauley River, West Virginia			Jim Rogers	Chris Williams	RENTAL BUS	

ONE PAGE FLYER ADVERTISEMENT

The Department of Recreation Services

TRIPS & CLASSES

Offerings for Spring Semester 1998

Outdoor Adventure Trips

Trip Number & Name	Location	SignUp Dates	Date of Trip or Class	Bus Part.	Coordinators	
TRIP 1 X-C SKIING & CAMPING	Black River State Park, WI	Jan 12- Feb 2, 12 noon	February 6-8, 1998	10	Chris Ray 862-0849	Pat Ray 862-0849
TRIP 2 DOWNHILL SKI	Alpine Valley, WI	Jan 12- Feb 5, 4:30 PM	Saturday, Feb 7, 1998	10	Bob Hudak 452-9894	Chris Conley 688-974
TRIP 3 HIKING	Starved Rock State Park	Jan 12- Feb 3, 12 noon	Sunday, February 8	10	Dave Wells (309)	Amy Arnold 439-119
TRIP 4 X-C SKIING	Moraine View State Park, IL	Jan 12- Feb 9, 12 noon	Tuesday, Feb 10	10	Georg Baird 827-739	Jim Rogers 452-6833
TRIP 5 DOWNHILL SKI	Devil's Head, WI	Jan 12- Feb 12, 4:30 PM	Saturday, Feb 14	10	Chris Ray 862-0849	Renae Smith 862-199
TRIP 6 HIKING	Matthiessen State Park, IL	Jan 12- Feb 10	Saturday, Feb 14	10	Pete Daniel wk2 439-1400	Chris Conley 688-974
TRIP 7 X-C SKIING	Parklands Nature Preserve, IL	Jan 12- Feb 11, 12 noon	Sunday, Feb 15	10	Georg Baird 827-739	Jennifer Scites 452-5391
TRIP 8 CAVING	Illinois Caverns, IL	Jan 12- Feb 17, 12 noon	Saturday, Feb 21	10	John Walther 662-2600	Jennifer Scites 452-5391
TRIP 9 X-C SKIING	Jubilee College State Park, IL	Jan 12- Feb 18, 12 noon	Saturday, Feb 21	10	Jim Rogers 452-6833	Chris Williams 439-2129
TRIP 10 MOUNTAIN BIKING	Land Between the Lakes, KY	Jan 12- Feb 19, 4:30 pm	Feb 27- March 1	10	Morgan Phillips 662-4318	Pat Ray 862-0849
TRIP 11 WINTER CAMPING XC SKIING	Yellowstone Nat'l Park, Wyoming	Jan 12- Feb 25, 4:30 pm	Friday, March 6-15	10	Jim Rogers 452-6833	Georg Baird 827-739
TRIP 12 BACKPACKING	Gila Wilderness, New Mexico	Jan 12- Feb 24 4:30 p.m.	Sun. March 8-15	10	Dave Wells 309-278-4440	Renae Smith 862-199
TRIP 13 HIKING/CAMPING	Clifty Falls State Park, IN	Jan 12- Mar 17, 4:30 pm	March 27-29	10	Kristen Davit 886-4817	Eric Schmutzelmaier 451-9021
TRIP 14 HIKING	Starved Rock State Park, IL	Jan 12- Mar 18, 4:30 pm	Sat March 28	10	Mindy Mezonnich 452-7088	Tony Eckert 829-2734
TRIP 15 CANOEING	Middle Fork of Vermilion River	Jan 12- Mar 18, 12 pm	Sunday, March 29	10	Jose Huerta 451-9087	Jennifer Scites 452-5391
TRIP 16 HIKING/CAMPING	Bell Smith Springs Shawnee National Forest, IL	Jan 12- Mar 23, 4:30 pm	Fri-Sun April 3-5	10	Georg Baird 827-739	Jennifer Scites 452-5391
TRIP 17 HIKING/CAMPING & HORSEBACK RIDING	Turkey Run and Shades State Parks, IN	Jan 12- Mar 24, 4:30 pm	Sat & Sun April 4-5	10	Nancy Sloan 886-4581	Jennifer Smith 439-4406
TRIP 18 WHITEWATER RAFTING/CAMPING	Peshtigo River, WI	Jan 12- Mar 31, 4:30 pm	Fri- Sun April 10-12	10	Jim Rogers 452-6833	Georg Baird 827-739
TRIP 19 WHITEWATER CANOEING	Big Pine Creek, Indiana	Jan 12- April 1, 4:30 pm	Saturday April 11	10	Dave Wells (309) 378-6440	Joe Heidelmann
TRIP 20 HIKING/CAMPING	Yellow River State Forest & Effigy Mounds Nat. Monum. IA	Jan 12- April 7, 4:30 pm	Fri- Sun April 17-19	10	Kristen Davit 886-4817	Dave Lukas 439-6103
TRIP 21 CANOEING	Salt Fork of the Vermilion, IL	Jan 12- April 8, 4:30 pm	Sat April 18	10	Georg Baird 827-739	Todd Henry 809-2782
TRIP 22 CANOEING/CAMPING	Current River, MO	Jan 12- April 14, 4:30 pm	Fri- Sun April 24-26	10	Dave Wells (309) 378-6440	Jody Mastarny 462-2384
TRIP 23 WHITEWATER RAFTING/CAMPING	Peshtigo River, WI	Jan 12- April 13, 4:30 pm	Fri-Sun April 24-26	10	Jim Rogers 452-6833	Chris Williams 439-2129
TRIP 24 HORSEBACK RIDING	Moraine View State Park, IL	Jan 12- April 26, 4:30 pm	Wed April 29	10	Chris Williams 439-2129	
TRIP 25 BACKPACKING	Dark Canyon Wilderness Area, Utah	Jan 12- April 26, 4:30 pm	Sun May 10- Wed May 20	10	Dave Wells (309) 378-6440	Joe Heidelmann
TRIP 26 CANOEING/CAMPING	Buffalo River, Arkansas	Jan 12 April 27, 4:30 pm	Sun May 10- Sat May 16	10	Georg Baird 827-739	TBA
TRIP 27 X-C SKIING	Allerton Park, IL	Jan 12- Jan 21, 12 noon	Sunday, January 25	10	Georg Baird	Doug McCarty
TRIP 28 HIKING	Moraine View State Park, IL	Jan 12- March 18, 4:30pm	Sunday March 22	10	Doug McCarty	Sarah Meguth
TRIP 29 CANOEING	Salt Fork of the Vermilion River, IL	Jan 12- May 19, 4:00 pm	Sat. May 23	10	Jim Rogers	Georg Baird
TRIP 30 CANOEING	Middle Fork of the Vermilion River, IL	Jan 12- June 9, 4:30 pm	Sat June 13	10	Jim Rogers	Georg Baird
TRIP 31 WHITEWATER RAFTING	The Gauley River, West Virginia	Jan. 12-Sept.	Oct. 1-4, Fall 1998	10	Jim Rogers	Chris Williams
TRIP 32 WHITEWATER RAFTING	The Gauley River, West Virginia		Oct. 1-4, 1998	10	Jim Rogers	Chris Williams

Sign up at the Student Rec Building on the corner of Beech and Willow, or at The OUTDOOR Store, 220 N. Main
Phone 438-7529 for hours or more information.

BEST COPY AVAILABLE

RECEIPT

Illinois State University
The Department of Recreation Services

The Students Rec Building
Club Rec
Club Aerobix
Corner of Beech & Willow

Phone: 309/438-7529

The OUTDOOR Store
The Resource Library
Trip Coordinators
220 N. Main St.

TRIP 1

Receipt Date	Rept Num
12/4/97	300

Participant Name DAVE WELLS RR 2 BOX 246 BLOOMINGTON IL 61704

Trip or Class Name X-C SKIING & CAMPING

ADDITIONAL PERSON (if any), I SIGNED UP – OR OTHER INFO

Payment Record

Pmt Date	Amount	How	Pmt Date	Amount	How	Amount Paid to Date

IMPORTANT INFORMATION

LOCATION: BLACK RIVER STATE PARK, WI

If you paid a $50 deposit, balance of _____
Due by _____
CASH due at Planning Meeting _____

DATE: FEBRUARY 5-8, 1998

TRIP LEAVES FROM: 220 N Main, The Outdoor Store

TRIP PLANNING MEETING--You MUST attend this meeting! If you DO NOT, you will NOT be allowed to go on the trip and you will NOT receive a refund. The meeting WILL last approximately 1 1/2 hrs. You MUST attend the ENTIRE meeting. Bring pen and paper.

Day/Date: MON, FEBRUARY 2 Time: 9:00 PM Place: 220 N Main, Rec Services Bldg

OTHER INFORMATION:

FEE COVERS:
Transportation – Group Equipment – – Backpack Rental –
– Ski Rental –

ADDITIONAL COST ESTIMATES:
Food = 12 (on The Road) – Personal Equipment = 9.5 – Total Additional Cost Estimate = $21.5

CANCELLATIONS AND REFUNDS--Trips & Classes
You will NOT receive a refund unless you find a substitute AND they come in to sign-up and pay BEFORE NOON on **MON, FEBRUARY 2** If you locate a substitute, call Recreation Services, tell the secretary your name, the trip or class you signed up for, and the name of your substitute.

TRIP DRUG & ALCOHOL POLICY
Transportation or consumption of alcohol or illegal drugs on any Rec Services trip is strictly prohibited. Violations will be reported to the Student Judicial Office.

TRIP PARTICIPANTS--READ BACK PAGE!

21.4

EQUIPMENT RENTAL & SALES

This program was designed by my husband, Kenneth Baird, to put our Equipment Rental on a computer check-out system. Through this program, all inventory, equipment use information, cost, damage and repair status, equipment availability, income, monthly and yearly reports, etc. are entered and maintained on the computer. Also the inventory of sales items, cost in, profit or loss on sale, supplier, etc. is maintained. The inventory contains approximately 3,000 items.

Our rental time periods are designed using 6 different time frames: Hourly, 24 hrs., 1-3 days, 4-7, 8-10, and 11-14 days. The rental fees are based on 3 different customer types: Student, Faculty/Staff, or Community. Students receive the lowest rental rates, Faculty/Staff somewhat higher, and Community a little more expensive than Faculty/Staff. Consequently, most items have a minimum of 15 different rental fee options. These are all calculated automatically by the program. In addition, it will automatically calculate extended rentals, and late fines.

The program takes you via buttons to the different stages of a rental or sales contract. When you enter the length of time a customer is renting, the program determines the date the equipment is due back. When you enter the equipment they are checking out, the program will automatically calculate the cost of that item, or equipment package, for the length of time the individual will have the equipment.

This program has "relationships" with 17 other documents. This facilitates keeping each document relatively small, and the whole program runs smoother and faster. Some of the documents are: damaged/destroyed information, different rental rate/period information, frequency of use information, cleaning/repair information, available/unavailable to rent, etc. Once again their is a Customer Database, so after someone uses the Equipment Rental, their information will be automatically entered when you type their social security number the next time they come in.

A minimum amount of data is included for each screen/document. This facilitates keeping the "what do I do next" factor low. To run this program effectively, you will need the FileMaker Pro Program, a 640 x 480 pixel screen, and a computer with 16 to 32 megabytes of memory, and a minimum of at least 100 megabytes free hard disk space, preferably more. You also need at least a 15" monitor and a dot matrix printer.

Because of FileMaker's flexibility and ease of scripting, we have been able to mold the computer rental system to match the previous paper-based system. This should ease the transition since the procedures are the same as before, we are just using the computer rather than paper to record what happened.

At this time, we do not have a reservation system for our Equipment Rental, consequently we have not written one into the program. This is something we are planning to look at once the checkout program is up and running smoothly.

If you are going to try to integrate this type of highly-customized computer process into your procedures, then database scripting during the planning phase is the most critical step. The scripts must understand exactly what you want to accomplish. Once you leave the planning phase, changes, additions, and/or misunderstandings may be easy or difficult to implement, depending on how much they impact the underlying structure.

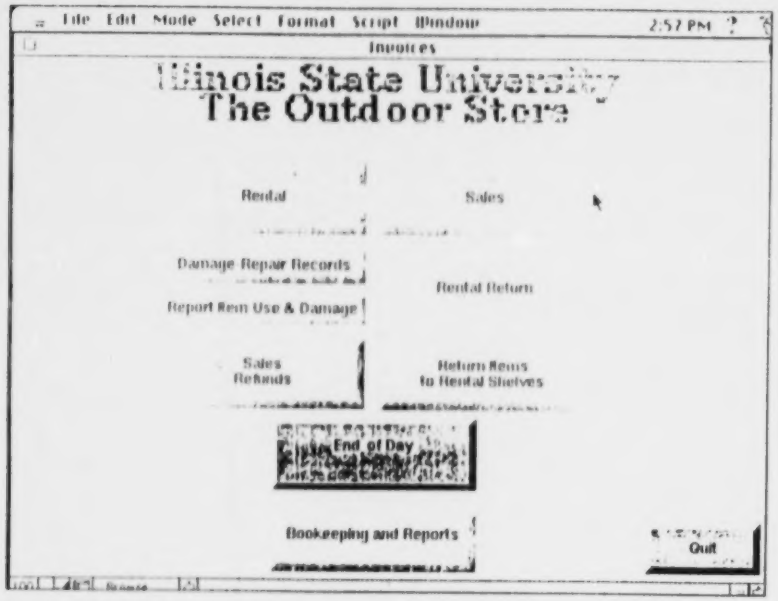
FileMaker is a flexible, easy to use database. It is Windows and Mac compatible so while our experience is Mac only, it is an excellent choice in a mixed platform network. It is not the most powerful relational database you can buy, but it is one of the easiest to script.

How Can I Try These?

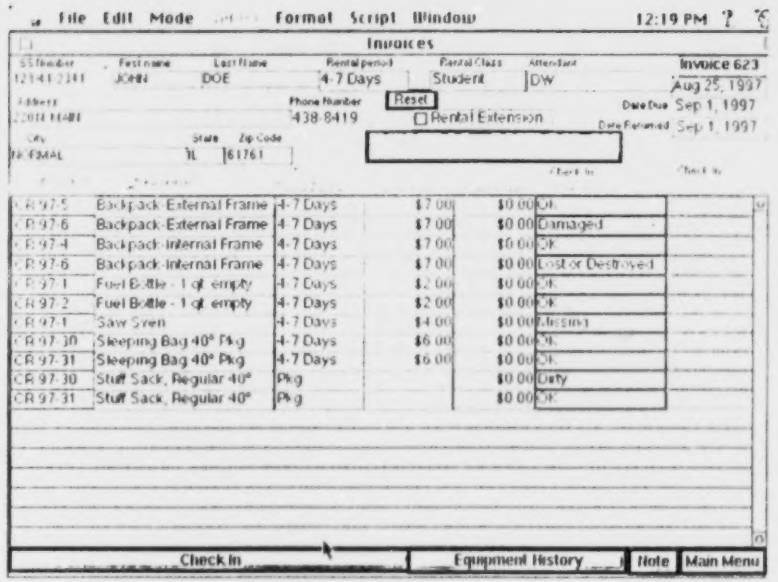
If you would like to see these programs and test them on your system, we would be happy to send you a demo version on a Macintosh CD for $25. Simply write to:

Georgi Baird
Department of Recreation Services
220 N. Main Office--Campus Box 2781
Illinois State University
Normal, IL 61790-2781

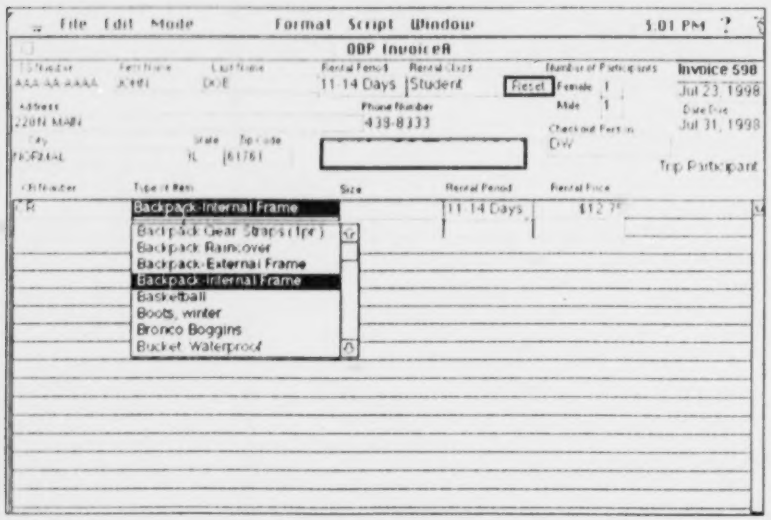
ATTACHMENTS: Samples of a few of the various layouts in both programs



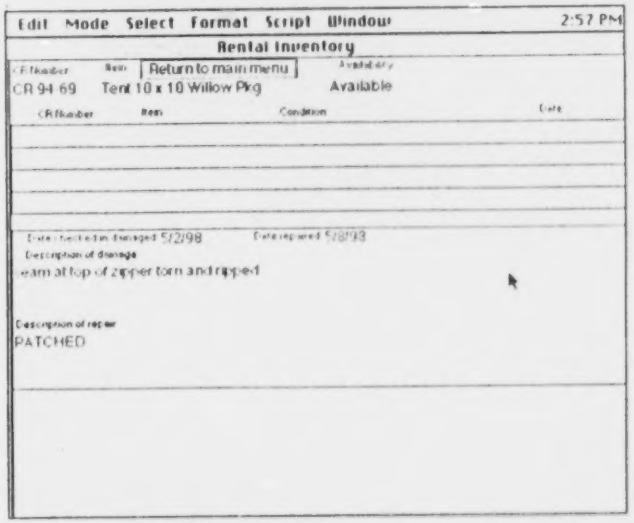
The Main Menu


File Edit Mode Format Script Window 12:19 PM
Invoices
Invoice 623
Aug 25, 1997
Reset
Rental Extension
Due Due Sep 1, 1997
Date Returned Sep 1, 1997
Backpack-External Frame 4-7 Days $7.00 $0.00 OK
Backpack-External Frame 4-7 Days $7.00 $0.00 Damaged
Backpack-Internal Frame 4-7 Days $7.00 $0.00 OK
Backpack-Internal Frame 4-7 Days $7.00 $0.00 Lost or Destroyed
Fuel Bottle - 1 qt. empty 4-7 Days $2.00 $0.00 OK
Fuel Bottle - 1 qt. empty 4-7 Days $2.00 $0.00 OK
Saw Sren 4-7 Days $4.00 $0.00 Missing
Sleeping Bag 40° Pkg 4-7 Days $6.00 $0.00 OK
Sleeping Bag 40° Pkg 4-7 Days $6.00 $0.00 OK
Stuff Sack, Regular 40° Pkg $0.00 Dirty
Stuff Sack, Regular 40° Pkg $0.00 OK
Check In
Equipment History
Note
Main Menu

Equipment Check-In Screen



Equipment Check-Out Screen


Edit Mode Select Format Script Window 2:57 PM
Rental Inventory
Return to main menu
CR 94 69 Tent 10 x 10 Willow Pkg
Available
Description of damage
seam at top of zipper torn and ripped
Description of repair
PATCHED

Damage Report Screen

ACTUAL RISK AND PERCEIVED RISK: IMPLICATIONS FOR TEACHING JUDGEMENT AND DECISION-MAKING TO LEADERS

By

Steven P. Guthrie, PhD
Unity College in Maine
Unity, ME

ABSTRACT

This talk used published data and literature on actual risk and perceptions of (physical) risk and summarizes literature on why people participate in outdoor activities. It discusses the inaccurate perception of the actual risks.

Complicating the issue of accurately perceiving physical risks is that there are a number of sociological/psychological and physiological factors which, in the field, affect judgment and decision-making. These factors and their effects are discussed. If persons fail to perceive the risks in an activity, then they are less likely to take adequate precautions. There are liability issues as well surrounding the "voluntary assumption of risk." Furthermore, if leaders or participants have an inaccurate perception of risk, then they obviously cannot make high-quality decisions.

A subsidiary major point of this presentation is that "common sense" is not that common among beginners. Our job as educators and leaders is not to rely upon "common sense," but to teach and employ "good sense."

Teaching judgment, decision-making, and good sense requires teaching an accurate perception of risks. Good judgment and decision-making requires that leaders be aware of, and adjust for, the ways beginners perceive risks differently from experienced participants and that they factor in the sociological/psychological and physiological factors affecting judgement.

INTRODUCTION

Audience Perception of Risks

The presentation started by giving the audience three assessments of their awareness of risks. The three tests involved ranking: a) the risk of death from different causes; b) primary and secondary urban children's fears of nature centers; and c) fears of persons about to go through an Outward Bound course (see Appendix for the tests, with answers supplied). After each test, audience members assessed the accuracy of their perceptions.

The audience found they were generally accurate with respect to death rates from different causes (typical average variance from the correct answer = less than 2). However, there much less accurate with respect to urban children's fears (average variance = 4) and to fears of Outward Bound students (average variance = about 5.5)

Statistics on actual (physical) risk

The audience were then shown data from two other sources (Smoot, 1993; Hale, 1990; see Appendix) and involved in the discussion. A few key points entailed

by the data and from other (non-cited) information were brought out. Some of them were these:

- Generally people have a perception of rock climbing as being dangerous. Consequently it is relatively easy to get students to take adequate safety precautions (except perhaps for the use of helmets).
- Moving water is fairly dangerous, yet participants under-perceive the danger; consequently, they are less willing to take pre-cautions.
- Generally, activities which are belayed (high ropes, top-rope climbing), even though scary, are safer than unbelayed activities close to the ground (low ropes, backpacking, New Games, sports).
- Traditional sports (soccer, baseball, volleyball, etc.) are about four times more dangerous than outdoor "risk" activities.
- Urban people are much more likely to have a fear of things such as bees, bears, insects, than of the more real dangers (hypothermia, lightning, dehydration, moving water).
- Staff are more likely to be injured than participants.
- Driving is generally the most dangerous aspect of outdoor recreation. A "risky" driver is about 10x more dangerous than a safe driver.
- Social fears are a significant source of fear (perceived risk), and often stronger than physical fears.

After the introductory activities and discussion, the following was presented.

PERCEIVED RISK & ACTUAL RISK

Definition and a Confusion

For the purpose of this presentation, perceived risk is defined to be the risk as perceived by the participant. This may be an accurate perception, or it may be inaccurate. A participant may perceive an activity to be risky when, statistically, it is safe; or they may perceive an activity to be risky when actually it is risky.

Some of the literature (e.g., Loynes, 1995) defines "perceived risk" to be only that which is perceived to be risky, when actually it is (relatively) safe. The conception of "perceived risk" used in this paper is different from the conception in some of the literature.

REASONS PEOPLE PARTICIPATE IN (LOW-RISK) OUTDOOR RECREATION

(Backpacking, camping, picnicking, fishing, xc skiing, snowmobiling)

There are a number of studies which have investigated why people participate in low-risk outdoor recreation activities such as backpacking, camping, picnicking, fishing, xc skiing, snowmobiling. From these studies, I suggest that the following seem to be the major overall reasons people participate in these activities:

Enjoyment of nature
Physical Fitness
Tension Reduction
Escape, Rest
To be with Friends and Family
Excitement
Trying something new
Outdoor learning
Exploration

One interesting finding is that snowmobilers participate in their activity for most of the same reasons that cross-country skiers participate in their activity.

Based upon an examination of these studies, I suggest the following key points can be gleaned from the research.

Key Points from Literature

- Generally, risk or excitement is not a major reason people participate in outdoor recreation. Furthermore even for those who engage in risky outdoor recreation activities, risk or excitement may or may not be a reason.
- Generally, skill or difficulty (testing one's ability) is not a major reason for non-leaders. In contrast, skill or difficulty is often a reason leaders participate.
- Why a person participates probably varies with the activity. (That is, some activities are more conducive to specific values-- snowmobiling is more conducive to excitement than is picnicking.)
- There are often extrinsic reasons people participate (Ford & Blanchard, 1993, p. 9). There is often social encouragement (perhaps pressure) from friends or leaders of their social group.
- Often people do not participate in risk activities for the same reasons a beginning leader may do so. (People who participate in risk activities probably do not have a complete picture of the activity. Often they may be participating merely for the reasons cited above.)

REASONS EXPERIENCED RISK TAKERS PARTICIPATE IN (HIGH) RISK ACTIVITIES

In contrast, those who participate in risk activities participate for generally different reasons. They participate for the following reasons:

Physical fitness; healthy leisure activity
Concentration
Tension release
Testing abilities, personal achievement
Being with friends
Excitement (endorphins)
Challenge/ uncertainty
Nostalgia -- Chance to reminisce

Some people claim that the adrenaline rush is extremely important. Others compare the concentration required in risk activities (often called a "flow" state) to be similar to that of a chess player (or someone observing art). These persons are getting a psychological "high" (which may have a physiological base in endorphins; see for example, Jones & Ellis, 1996).

However, others say that the component of the adrenaline high is over-rated. They say that social reinforcement and peer respect, a sense of self-respect and self-accomplishment are equally, or more, important. Probably, which aspect is more important depends on the individual.

Persons who engage in traditionally high-risk activities can engage in them at a lower level of risk. A Class V boater might "retire" from Class V boating to spend more time on Class III waters; a 5.9 rock climber may choose to limit herself to climbs previously done or to easier rock. These experienced risk takers may fall more in the category of the "low-risk" practitioner.

Within any group of beginners who participate in outdoor risk activities, you will probably find all the reasons cited for both the low risk participants and the high risk participants. However, even for those beginners who participate

for the high-risk reasons, the level of difficulty or danger needed to achieve the benefits will be generally much less than for the experienced participant.

The Experienced Risk Taker and Acceptable Risk

Those who don't participate in risk activities tend to believe that experienced risk-takers (ERTs) are dare-devils participating without regard for their life or health. Nevertheless, statistics indicate that experienced practitioners of a risk activity are probably less likely to be injured or killed than are beginners in the activity.

It has been suggested that the experienced risk taker does a "cost/benefit" analysis to determine how much risk is acceptable (Helms, 1983). Yes, they are engaging in a risky activity, but they are not dare-devils; rather they are carefully weighing the odds and making conscious decisions regarding their safety. Under cost/benefit analysis, the ERT is doing "more" "risky" activities to achieve the same benefits a less experienced person would achieve. In one sense, the risks may be more risky; but because the ERT's skill level is higher, chances of injury or death is often much less than for the inexperienced person.

Thus, ERTs are not necessarily more risky, they are just perceived so by the less-experienced. Through cost/benefit analysis they are attempting to limit themselves to "acceptable risk." However, there are sociological/psychological factors, discussed later, which do affect their perception of the risk. Experienced risk takers do make mistakes, and if they are pushing the extremes, their mistakes are more likely to be serious or fatal.

Many people who are training to be leaders of outdoor risk activities tend to be experienced risk takers. These does not mean they are necessarily pushing the extremes, but is does mean they are likely to be participating in risk activities for different reasons than at least some of the beginners; further, they will probably be engaging in the activity at a higher level of difficulty than a beginner could as safely participate.

For these reasons, there are a number of key points which beginning leaders need to understand.

Key Points for Beginning Leaders

- Many beginning leaders tend to be experienced risk takers; however, most beginners are not.

- Beginners who engage in risk activities may not engage in them for the same reasons that the experienced risk taker (and the beginning leader) does.

  Often beginning participants engage in those activities for the same reasons that they might engage in outdoor recreation generally, namely perceived benefits such as physical fitness and the accompanying tension reduction, enjoyment of nature, escape and rest, outdoor learning, and exploration.

  Beginners often cannot fully realize the differences between risk activities and other activities. They may just be "trying out" the activity to see if they like it.

- The level of risk which is appropriate to the beginner is generally much less than that needed by the experienced risk taker.

SOCIAL/PSYCHOLOGICAL FACTORS AFFECTING JUDGMENT OF ACCEPTABLE RISK

There are a number of factors affecting the evaluation of what is "acceptable risk," i.e., affecting judgment. Helms (1983) discussed many of these.

AGE -- Young men are generally more confident that older men; this difference does not occur in women.

In some activities, the average time of active participation in a high-risk activity seems to be about five years (Withers, 1988, p. 75). They then tend to retire to less risky activities. The feeling of invulnerability tends to diminish; close calls and injuries/deaths of friends take effect.

SELF-CONFIDENCE -- People with higher self-confidence tend to engage in riskier behaviors. If the self-confidence is too high, the confidence may be misplaced and be over-confidence.

EXPERIENCE -- Generally, people with more experience are more capable of accurate judgements.

IGNORANCE/ INEXPERIENCE -- It is well known that inexperienced and ignorant persons are much more likely to have poor judgment.

INVULNERABILITY -- High risk takers tend to be unaware of the consequences; they tend to have the feeling of invulnerability. This is also a characteristic of youth.

LOW SELF-CONCEPT -- People with low self-esteem may also engage in riskier behavior in order to demonstrate their bravery, or they may be very conservative. People with high self-concept tend to be moderate risk-takers.

(Notice a difference between self-confidence and self-concept. I suggest that people with mis-placed self-confidence can have an inaccurate view of self and others' capabilities.)

RISK TAKING AS A CULTURAL VALUE -- Risk taking behavior is a valued (male) trait in our society.

GROUP BEHAVIOR -- When making decisions as part of a group, there are a large number of factors interacting which push individuals in groups to make decisions different from what they would make as individuals.

One typical example is the "Risky Shift." Groups functioning in a "risky shift" mentality tend to make more risky decisions, because each individual is abrogating some responsibility to others in the group. On the other hand, a group may also be unnecessarily conservative, because no one wants to be responsible for being too risky.

Another problem in groups may be the tendency to assume that the confident, outspoken person is correct and to go along with that person. That confident person may merely be over-confident (see above). Peer pressure and its well known effects may come under this category. There is a tendency for people to "egg" each other on; to say, "Go for it."

There are many other influences as well. (For examples, see Johnson & Johnson, 1997). *Small group behavior is outside the scope of this presentation.*

As a leader of a group, it is important to remember that a well-functioning group tends to make high-quality decisions; but the catch is in the "well-functioning" aspect. A well-functioning group takes into account, and adjusts for, those group pressures. If as a leader you are trying to give the group responsibilities, you still need to be monitoring the group and its decisions and ascertaining the quality of the decisions.

As a leader, for a particular decision you need to ask yourself, "Is the group well-functioning?" and if so, "Does it have the necessary capability of making <u>this</u> decision correctly and in implementing the decision?" As a leader, you need to be able to recognize what is going on in the group, and

for crucial decisions, you may need to make the decision not to give responsibility and decision-making authority to the group (for that crucial decision).

HAZARD FOLKLORE -- Within a given outdoor community, there many be a certain "folklore" or peculiarly local perception of risk surrounding a local outdoor undertaking. A certain route on a mountain or rapid on a river may be perceived to be especially risky, an animal (black bears?, cougars?, bigfoot?) may be perceived to be especially dangerous in the area. A certain style of equipment or technique may be perceived as dangerously inappropriate. Sometimes it make take an outsider to come in and dispel the myth.

For example, many years ago when I moved to a specific community in one state from another outdoor community (only 120 miles away), I was told that the pin-binding cross-country skis I was using for winter camping were completely useless. This was a surprise to me because I and my friends had been using them successfully for two years in the same mountain range.

FASHION -- Related to hazard folklore is fashion. Fashion concerns affect both standard safety practices and equipment. In the U.S., the rock-climbing community generally does not wear helmets. Many assert that helmets increase the hazard. Nor do U.S. climbers wear chest harnesses.

Twenty-five or so years ago, it was considered to be unsafe to wear life-jackets when whitewater boating. Currently, some in the alpine skiing industry are working to make helmets for skiing fashionable. Teenagers are notoriously susceptible to fashion-- it can be difficult to get them to wear life jackets, helmets, or even the proper clothing. Much outdoor equipment is fashion driven-- a "purely" functional piece of equipment is difficult to market.

TIME AND EXPOSURE TO RISK -- Often, people who are more used to risk, exposed to it more often or for a period of time feel less threatened by the risk. Consequently, they are more likely to take risks.

BETTER EQUIPMENT AND SAFETY/RESCUE TECHNIQUE -- Its well recognized that with better equipment, people have the illusion of safety. This is especially a problem in whitewater rafting with the advent of self-bailing rafts. Rafting companies are routinely taking customers down rivers they would not go down 10-15 years ago. And customers are dying. As safety equipment develops, people take greater risks.

SOCIETAL PRESSURE / ADVERTISING -- Currently, advertisements on TV and in print are pushing the high risk activities. One successful company's slogan is "Just Do it." Risk activities are the rage. One first-year leadership student of mine said he highly valued "a reckless disregard for the consequences" in his participants.

A NEED FOR CHALLENGE AND SUCCESS -- The outdoor recreation/ adventure education industry recognizes and exploits the fact that risk activities provide both challenge and success. Many participants, especially beginners and beginning leaders, find it difficult to turn back or quit if they are close to a goal or have invested considerable time or money in a project.

ADRENALINE RUSH/ FLOW STATE/ A "HIGH" -- As briefly discussed earlier, participants can achieve a "flow" state or a high. Some develop such a need for this high that they will unreasonably push themselves to participate. For example, a few years ago, a friend of mine could not quit her daily run, even though she had mononucleosis.

ON & OFF DAYS -- People have on and off days. When they are "on", they tend to feel invincible. A few years ago, the whitewater kayaker and co-author of a river rescue text, Slim Ray, was having an especially "on" day until

the drop which broke his back and paralyzed him. It is difficult to hold back when one is having an especially good day.

Conversely, if someone is having an "off" day, there is a tendency to persist because one knows one is capable of doing better.

PERSONALITY TRAITS -- Helms (1983) concludes that, by themselves, personality traits are not a good predictor of risk taking propensity within a given situation. That a person is "warrior-like" or excitable does not necessarily predispose a person to take a risk. Other factors, such as previous experience and perception of the hazard and perceived utility of the goal, interact. It may be that the risk or difficulty is not perceived to be high enough to be worth the effort. Risk taking itself is not a personality trait (p. 249-250).

ENVIRONMENTAL/PHYSIOLOGICAL FACTORS

There are a number of environmental and physiological factors which affect judgement. Since they are fairly well known by practitioners, I will discuss them in summary fashion.

HYPOTHERMIA -- Of these factors, hypothermia is considered to be the most insidious. It is well recognized that judgement is affected very early in the onset of hypothermia. Hypothermia is also a significant contributing cause of accidents.

DEHYDRATION -- Dehydration also tends to have subtle and early effects on a person. A typical early sign of dehydration is irritability and a subsequent unwillingness to listen to reason or think rationally.

HUNGER -- Some people need to have food on a regular basis (this may be due to a lower blood sugar). As with dehydration, being forced to delay lunch can cause irritability and subsequent unwillingness to listen to reason.

Hale's (1990) studies of accidents found that there was a noticeably greater accident rate in the late morning and the late afternoon. This is likely related to hunger and/or fatigue.

FATIGUE -- It is recognized that a significant proportion of climbing accidents occur on the descent, even though frequently descents occur on easier, safer routes. Fatigue is not only a cause of accidents, but it affects judgement as well. Further, it is difficult to take into account the effects of fatigue when making judgments.

ALTITUDE/ INJURY/ HEAT -- As we know, these three also can affect judgement significantly.

IMPLICATIONS RESULTING FROM THE LITERATURE

So far we have presented data and literature comments on actual risks and the perception of risk. In addition to ignorance of actual risks there are also sociological/ psychological factors affecting the perception of, and judgments concerning, risks. Given this information, a number of conclusions important for beginning leaders can be drawn.

- There is often no correlation between real risk and perceived risk for participants and/or, often, beginning leaders.
- A lack of knowledge of actual risk by leaders makes activities more hazardous. It is a major responsibility of leaders to:
  - -- eliminate all unnecessary, unacceptable risk
  - -- be able to recognize and forestall actual risks.

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- Leaders need to be able to anticipate and alleviate unwarranted fears in participants. Participants with unwarranted fears may fail to perceive actual risks.

- Participants who do not accurately perceive risks will tend to be more careless or more dangerous.

- Participants can not voluntarily assume risks if they can not accurately perceive them.

- To learn judgment and decision-making, participants must learn to distinguish actual and perceived risks. This is a first step in learning judgment.

- Because there is so little accurate data on the actual risks, insurance rates are often based on perceived risks. These rates may not correspond with the actual risks.

LEARNING TO ASSESS ACTUAL RISK

There are many ways to go about learning to assess risk accurately. These have been well-covered elsewhere. However, my observation has been that many students are reluctant to learn by means other than personal experience and making mistakes. (This is undoubtedly related to lack of experience and the feeling of invulnerability mentioned earlier.) Nevertheless, following are alternative sources of information.

STATISTICS AND ACCIDENT REPORTS -- Two excellent sources of information are the American Alpine Club's annual accident report and the American Canoe Association's accident reports. There is much to be learned from reading these sources. The Wilderness Risk Managers Committee and the Association of Experiential Education are working together to gather additional information. Further, there are avalanche accident reports and data.

CLASSES/ BOOKS/ NEWSPAPERS/ MAGAZINES/ JOURNALS -- These are all excellent sources.

TALK TO PEOPLE -- Outdoor stores, clubs, people you meet along the trail or river are all excellent sources of information. In many places, rangers and game wardens are knowledgeable source.

PERSONAL OBSERVATION OF EXPERIENCE; REFLECTION -- This is an excellent source of learning. However, it must be objective, reflective, and critical observation; and that can be difficult. Merely going out and having experiences is not necessarily an efficient source of learning. What must be combined with the experience is critical reflection. This is why journals and talking about experience and your learning (debriefing) is important. To many beginning leaders, the reflection part is too much like work, and is less fun than the "doing." Nevertheless, it is the important part of the experience for the experience to be experiential learning.

It is often thought that good judgement can be learned only through experience. This is not true. Experience alone is insufficient; critical thinking and reflection upon the experience is also necessary. So is theoretical knowledge.

Furthermore, the effective learner acquires good judgment not only through one's own experience and mistakes, but from the experience of others as well. This may be summarized by the epigram:

> "It's often better to learn from the mistakes of others than to suffer through your own."

SUMMARY; KEY POINTS

- We are not trying to eliminate risk, rather to "manage" it to acceptable levels. What is acceptable to a person as a leader must be more conservative than for a person doing it on their own.

- For participants, there are also physical risks and social/ psychological risks. Leaders need to be aware of more than just the physical risks.

- It is often difficult for the instructor to know when a student is fearful or how fearful.

- For physical risks, there is a often a distinction between actual and perceived risk. For the experienced leader, this is minimal.

  Beginning leaders and participants need to learn to reduce the difference between actual and perceived risk.

- We are concerned with an accurate objective evaluation of risk. This is essential for learning judgment & decision-making (J/DM)

- Sufficient theoretical knowledge about actual risks is often a limiting factor.

  -- the beginning leader needs to make a full effort to become informed.

  -- leaders need to keep up to date on the latest information and need to know where to find it.

- There are sociological/ psychological factors affecting judgment of risk; there are physiological factors affecting judgment.

  The leader needs to be aware of these and be able to adjust for these.

- Despite this discussion of risk, any experienced, competent, outdoors person is far safer when doing these "risks" than when driving a car!

FINAL OBSERVATIONS and CONCLUSIONS

It's extremely important to realize that good judgment is a learned skill. Although some people may pick it up faster than others and pick it up without formal instruction, *people are not born with good judgment*.

A number of authors feel "common sense" is important to good judgment and decision-making (J/DM). The problem with believing in the value of "common sense" is that what is "common sense" for the beginner may be foolish for the experienced person. Conversely, what is common sense for the experienced leader may not be obvious to the beginner. ***These are the main points of this presentation.***

What leaders need is "good sense." As with so much of J/DM, good sense is a learned skill. It is not as common in beginners or beginning leaders as we would like, nor can we expect or assume them to have it.

AUTHOR NOTE:

Comments and questions are encouraged. During the presentation, overheads for Key Points were used. A number of participants asked for the material to create these overheads. They are available at no charge. The author may be contacted at: Unity College, Outdoor Recreation Leadership program, Unity, ME 04988. Phone: (207) 948-3131, x213. Fax: (207) 948-6277.

This presentation was based upon a number of articles and bits of information collected over several years. Following are some references which have been consulted.

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APPENDICES

PERCEPTIONS OF RISK

Death Rates

The following are causes of death in the United States (US), the United States and Canada (US&C), or world-wide (WW). As a group, please assign each a rank according to the total number of deaths which occur each year. (1 = highest; 15 = lowest)

YOUR ANSWER		CORRECT ANSWER	DIFF.
_____	lightning (US&C)	7.5	_____
_____	mountain and rock climbing (US&C)	12	_____
_____	cardiovascular disease (US)	1	_____
_____	bees (US)	7.5	_____
_____	downhill skiing (US)	10.5	_____
_____	bears (US&C)	15	_____
_____	vehicular accidents (US)	2	_____
_____	homicide (US)	3	_____
_____	challenge courses (US)	14	_____
_____	skin cancer (US)	4	_____
_____	commercial airplane accidents (US)	10.5	_____
_____	livestock (being trampled, gored) (WW)	6	_____
_____	canoeing and kayaking (US)	9	_____
_____	snakebite (US)	13	_____
_____	heatstroke (US)	5	_____

TOTAL DIFFERENCE (VARIANCE): _____

AVERAGE VARIANCE: _____

[Note: When administering this exercise, it is recommended you <u>not</u> have the answers available to group members.]

<u>Disclaimer</u>: The data for these answers have been collected from a wide variety of sources over a few years. Some of the answers differ depending on the source of the data.

PERCEPTIONS OF RISK

Urban Children's Fears (of nature centers)
(Primary and Secondary)

The following are fears of urban children. As a group, please rank them from the greatest fear to the least fear. (1 = high; 14 = low)

YOUR ANSWER		CORRECT ANSWER	DIFF.
_____	nighttime	14	_____
_____	ticks	9	_____
_____	weather	10	_____
_____	bee stings	6	_____
_____	personal comfort (cold, heat, fatigue)	7	_____
_____	getting dirty	5	_____
_____	snakes	1	_____
_____	bird attacks	13	_____
_____	bears	4	_____
_____	being in the woods	8	_____
_____	water (falling in; getting wet)	12	_____
_____	getting lost; not returning	3	_____
_____	insects	2	_____
_____	people (weird, crazy)	11	_____

TOTAL DIFFERENCE (VARIANCE): _____

AVERAGE VARIANCE: _____

[Note: When administering this exercise, it is recommended you not have the answers available to group members.]

Disclaimer: The answers here have been extrapolated from the data and may appear to be somewhat different from the original. Effort has been taken to present the answers as an accurate reflection of the original report. This is not a research instrument.

Source: Bixler et al. (1994). Journal of Environmental Education.

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FEARS IN OUTWARD BOUND

The following are fears of Outward Bound participants prior to their program. Please rank them from the greatest fear to the least fear. (1 = high; 17 = low)

YOUR ANSWER		CORRECT ANSWER	DIFF.
_____	fast water / deep water	17	_____
_____	not enough to eat	1	_____
_____	bothered by insects	3.5	_____
_____	insufficient strength/experience	13.5	_____
_____	falling	5	_____
_____	becoming lost	9.5	_____
_____	letting others down	2	_____
_____	dirty	9.5	_____
_____	lack of privacy	13.5	_____
_____	poisonous plants	15	_____
_____	darkness	16	_____
_____	not fitting in	3.5	_____
_____	letting self down	8	_____
_____	poisonous animals	12	_____
_____	confrontation w/ others	11	_____
_____	making wrong decisions	6	_____
_____	inadequate clothing or training	7	_____
		TOTAL DIFFERENCE (VARIANCE):	_____
		AVERAGE VARIANCE:	_____

MISCELLANEOUS

T F In Outward Bound and NOLS, the injury rate in backpacking is higher than in rock climbing. (Wilderness Risk Managers' Conference, 1994)

T F In challenge courses, high elements have more injuries than low elements. (Hale; Project Adventure)

[Note: When administering this exercise, it is recommended you not have the answers available to group members.]

Disclaimer: The answers here have been extrapolated from the data and may appear to be somewhat different from the original. Effort has been taken to present the answers as an accurate reflection of the original reports. This is not a research instrument.

Source: Ewert, A. (1986). J. of Environmental Education.

ESTIMATED ACCIDENT AND FATALITY RATES (1993)*
(Per 100,000 participants, US data)

Activity	Injuries	Deaths
Mountaineering (8000m peaks)	5,000+	4000+
Paragliding	5,900+	400+
BASE jumping	5,000+/-	300+/-
Mountaineering (Denali)	1,368	398
Mountaineering (general)	602	146
"Mountain Climbing" (all types, incl. rock climbing)	320	45
Mountaineering (Mt. Rainier)	341	24
Skydiving	30+/-	24
Hang gliding	500+	22
Automobiles (drivers/passengers	2,100+	19.1
Mountaineering (North Cascades)	98	18.6
Rock climbing (Yosemite)	400+	18.3+
Boating (small craft--includes rafting, kayaking, canoeing, small motorboats and rowboats(	500+/-	14.5+/-
Rock climbing (Smith Rock)	250+	10+/-
Rock climbing (in general)	198+/-	8+/-
Caving	200+	6+/-
Surfing	154	4+/-
Diving (scuba, recreational)	70+	3+/-
Swimming	170+	2.5
Boating (recreational--includes large motorboats, yachts)	125+/-	2.5+/-
Rock climbing (Eldorado Canyon)	27+	2+/-
Skiing (Alpine?)	1,440+/-	2+/-
Bicycling	1,049+	1.7
Rock climbing (Gunks)	100+/-	1+/-
Hiking	50+/-	0.5+/-
Football	2,857	0.05
Commercial airline transportation	1+/-	0.05
Lightning	0.015	0.0016

A large percentage of accidents are not reported. For most activities, the actual injury/ accident rate is much higher. Indoor "rock" climbing is not assessed here.

* Smoot, J. (1993). Is climbing really dangerous? Rock and Ice, #58, p. 58.

SERIOUS INJURY RATE* (1989**)
(per million participant hours)

Non-Activity Time (participants)	0.15
High Ropes Course (participants)	0.55
Initiative/Team challenge (participants)	0.60
Participant Injury, all activities	1.01
Overall injury rate, all database	1.08
Staff injury	1.73
Canoeing (participants; includes flat water, portaging)	2.90
Backpacking (participants)	5.44
Rockclimbing (participants)	7.30
Day Hiking, Orienteering (participants)	7.77
Downhill Skiing (participants)	8.75
X-Country Skiing (participants; includes backcountry skiing)	9.97
Sports and Recreation (participants; includes soccer, volleyball, softball, New Games, etc.)	31.90

* Serious Injuries = injuries requiring physician's treatment, or causing person to miss a half-day of activity, or indicating long term complications.

** Hale, N. (1990). Annual Review - 1989. Bellefontaine, OH: National Safety Network.

ESSAY

CHANGING TIMES IN OUTDOOR EDUCATION

By

Ron Watters
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ABSTRACT

Using an incident in which an Outdoor Program is blamed for promoting underaged drinking as a point of discussion, the author ruminates on the changes that have occurred in the field over the years. Because of a number of factors, the climate existing in outdoor education is far less personal than in previous years. Unless educators are aware of the changes and make adaptations to deal with such changes, the outdoor field is in danger of losing much of the spark and spirit that makes it such a rewarding endeavor for which to dedicate one's life.

When I read the letter I knew we were in trouble. The letter writer was accusing us of providing free alcohol to underaged individuals under our care. I was looking at a copy of the letter, but originals were already on their way to two newspapers.

I don't promote underaged drinking, but suddenly I found myself and those who work with me accused of doing just that. My big problem was that the letter writer was probably right. Underaged drinking had likely occurred. We just hadn't seen it.

I run the outdoor program at Idaho State University and the incident had occurred at one of our events this last fall. The university is located in the southeast Idaho town of Pocatello, a conservative area and much of the population are members of a religion which strictly forbids drinking. Idaho State has a no-nonsense school administration which is very sensitive to community values and has little tolerance when a department creates bad press, particularly bad press concerning alcohol. Indeed, I found myself in trouble.

My predicament was another, albeit dramatic, sign of changing times in the outdoor education world.

For a good many years, we in the outdoor programming business at universities and other other non-profit organizations have been wrapped in a warm down comforter, insulated from the vagarities of the real world. We have been largely insulated by perceptions and images. Those who have participated in our programs in the past never thought of us as a "business" or an institution. They and we were a part of group of friends that would go on trips and learn about the outdoors. Although, as the director of the program, I still worried about such things as budgets, liability, personnel, and other normal concerns of running a business, I still enjoyed the satisfaction of working with

people who felt the part of a large family environment. It was an environment that few other working situations offer.

But that's all over now. The family went through a divorce.

It wasn't an ordinary divorce, and it didn't occur quickly; rather, it happened over the span of twenty years. During that time period, the outdoor programming family just grew too big and too diverse and much of the original familial bonds dissolved as the field became mainstream. For our distant commercial in-laws the change occurred nearly overnight. Fifth Avenue advertising campaigns made outdoor adventure the "in" thing, and the styles and varieties of outdoor clothing and gear mushroomed as new markets were created.

Publications quickly followed suit. The old quirky but personable *Mountain Gazette* with its black and white photography was replaced by the slick, glossy *Outside Magazine* with expensive advertising and sardonic wit. Clients on guided trips also began to change. No longer satisfied with ordinary trips, they wanted--or they had been convinced that they wanted--adventures portrayed in films like *River Wild*. To stay in business, outfitters found that they needed to offer something more like Disneyland experiences than outdoor experiences.

Outdoor educators were the last to experience these changes. Part of the reason the change came so late had to do with public perception. We were always perceived as a bit different, as an odd, independent bunch doing risky things. That attracted a certain kind of person to our programs, an individual who expected a few bumps in the road and who was willing to accept pitfalls as a normal course of the adventure. Participants in outdoor programs lived, what pundits might have described at the time, an alternative lifestyle. Their adventurous nature was looked on with awe, if a little warily, by the general public. Things like climbing, backcountry skiing, whitewater rafting were exciting from a vicarious standpoint, but they were things that normal folks just didn't do.

Mass marketing of the outdoor experience has changed all that. Outdoor adventure activities has been become everyday stuff. Even the President of the United States while on family vacations includes a whitewater trip as a normal part of the holiday agenda.

Because of this now universal acceptance, we've seen tremendous increases in the numbers of participants in outdoor education programs, but we've also paid a price. We no longer represent an alternative lifestyle. We are the mainstream lifestyle.

We find ourselves being held to the same standards as other businesses. Participants expect more. They expect trips to run smoothly and there's less acceptance of personal responsibility. If something goes wrong, it is the outdoor program's fault, not the participants. Outdoor Programming, despite its non-profit roots, is now perceived as a business, and outdoor educators are no longer thought of as friends or as part of an extended family but as something impersonal: an institution, an organization, nothing of flesh and bone.

Which brings me back to the letter to the newspaper and underage drinking. The event at which the underaged drinking occurred is something called the Pocatello Pump. It's a rock climbing contest that we sponsor each year. In it's beginnings, it was a loosely organized affair. Climbers would try to climb as many routes as they could during a time interval and accumulate points. High point climbers won a few cheap prizes. Free beer was provided at a rollicking post event party, and no one really cared who had won what.

Through the years, things began to change. We solicited more expensive prizes from stores and manufacturers. We learned how to better organize and promote the event in national climbing magazines. We started attracting good climbers from different parts of the country and the level of competition went way up.

One year, something happened which became an omen of things to come. A woman in one of the advanced climbing categories altered the numbers on her score card. We didn't discover the cheating until after the event and after she had gone home with several hundred dollars in prizes. What we didn't or couldn't have known at the time was that she

represented an entirely new kind of competitor--and an entirely different participant in our programs.

Last year, one of the local competitors went into a temper tantrum when he couldn't make it up a climb, ripping tape off the wall which divided two climbs. He stomped around telling all who would listen how shoddily the event was run.

We got through the awards ceremony, but there was a bad taste in our mouths from the affair. The local competitor was someone we all knew well and who had participated many times in outdoor program events, but seemed to have little empathy in the kind of work that went into the event.

Then about two months later, the final blow fell: the letter appeared in the town's newspaper. It had been written by one of the competitors, a young woman who had also participated in other Outdoor Program events. She complained in her letter that the free beer available at the awards ceremony had been drunk by at least one underaged individual and that she was angry at the pump officials (us) for creating an environment which led to inappropriate drinking.

The irony of the letter was that I agreed with her. The temper tantrum thrown by the male competitor could be easily brushed off as a childish display. But she had a valid point. Even though, we had been careful on the amount of beer--only one bottle was available for less than half the people attending the awards' ceremony--we had never carefully thought through the problem of an underaged individual availing themselves of a drink.

Soon after reading the letter, I contacted the letter writer and met with her. She was surprised that I would seek her out, but I wanted to listen to her and I wanted her to know that I agreed with her. I also wanted to do something else. I wanted to put a face on the program. I wanted her to know that the program was living and breathing and had a personality. When she wrote the letter she was attacking an inanimate object, an impersonal institution.

I spent the next few days meeting with university officials, but by then the whole incident had seemed to have blown over and though, personally sustaining some wounds, the program had survived.

Those of us who have been in the outdoor education field for a while probably know that deep down we'd have to give up the security of the down comforter that has insulated us from the outside. The changed outdoor world that we now live in isn't an easy one to accept. And while must of us in outdoor programming would never want do anything different for work, we still need to be remind ourselves of the change and make adjustments in how we respond to it. How well we respond and in what way will determine whether we are able to save something of that old magic and family atmosphere which, though diminished, still lies at the heart of our profession.

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ICORE Education Sessions
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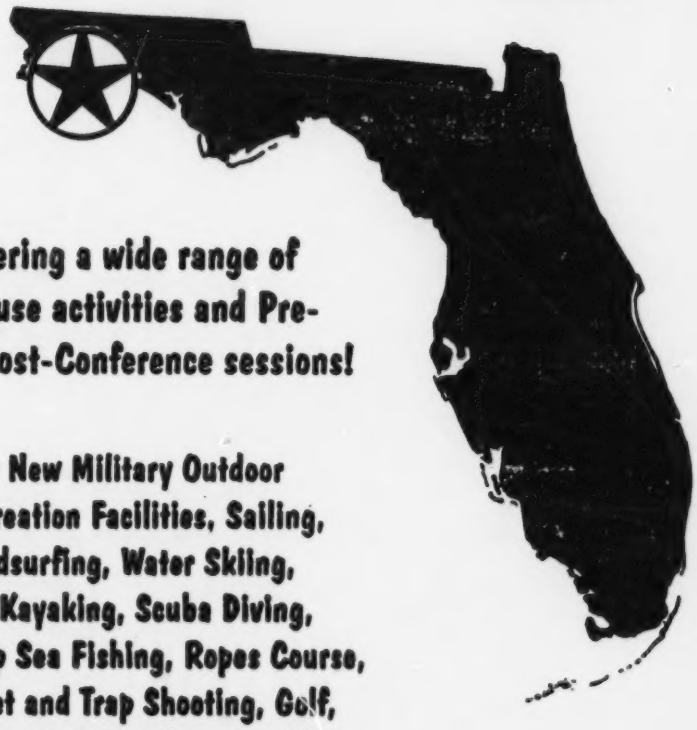
Post-Conference Activities
Saturday, 17 Oct 98



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